

December 20, 2024

ADDENDUM NO. 1

To Prospective Bidders and Other On:

FY 2025 CAPITAL IMPROVEMENT PROGRAM
FEDERAL AID PROJECT NUMBER 69A36523420000RLDMA

EAST DEERFIELD YARD INTERMODAL PROJECT

Transmitting revisions to the contract documents as follows:

Plan Sheets

Edits are circled with
callouts.

Page G-0301, Page 5 of 44,
Updated quantities to match
the specification package for
turnout

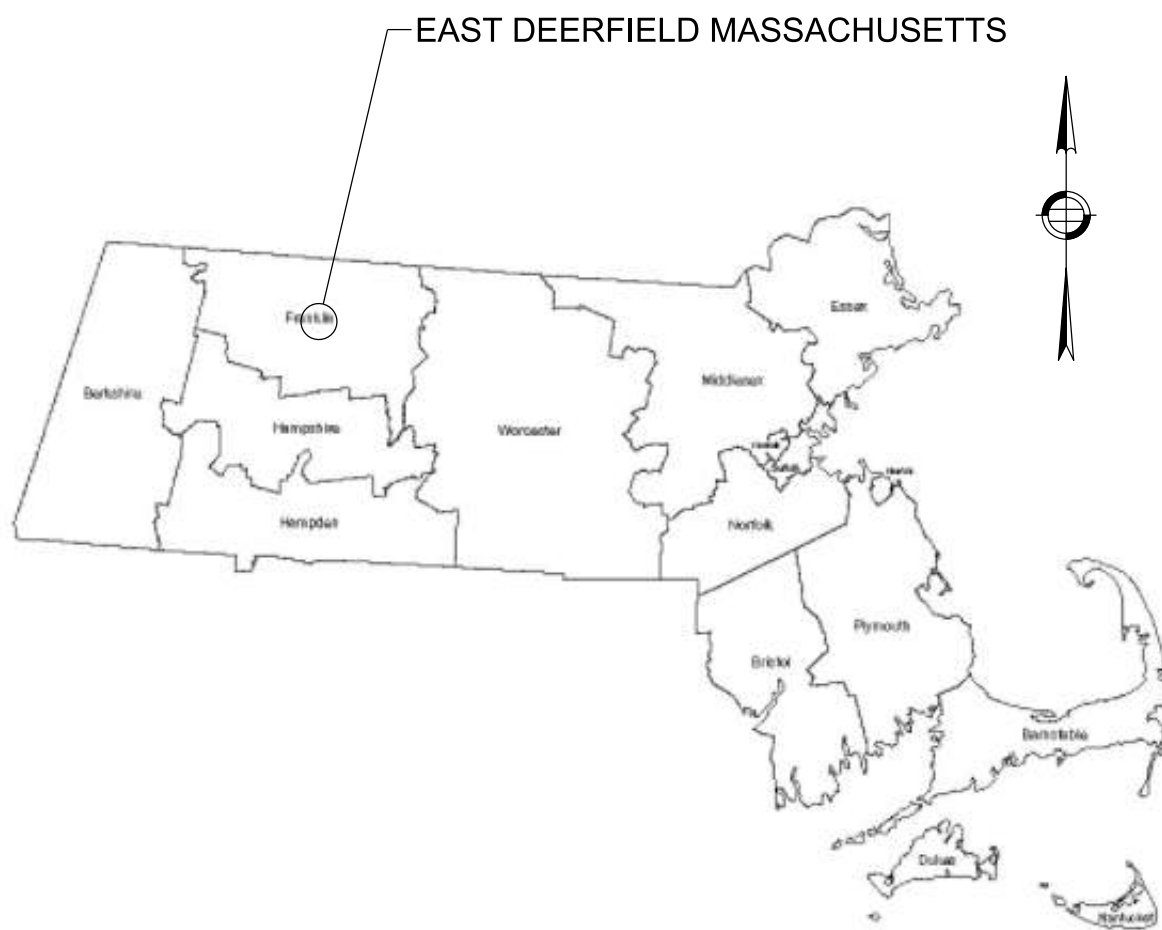
installations/rehabilitations,
track feet disposal, crosstie
disposal, furnish derails, and
note clarifying the scope of
rehabilitations.

Page K-0002, Page 8 of 44,
Updated plan sheet to match
specifications for a new
installation of a LH #10
115RE turnout on R2B.

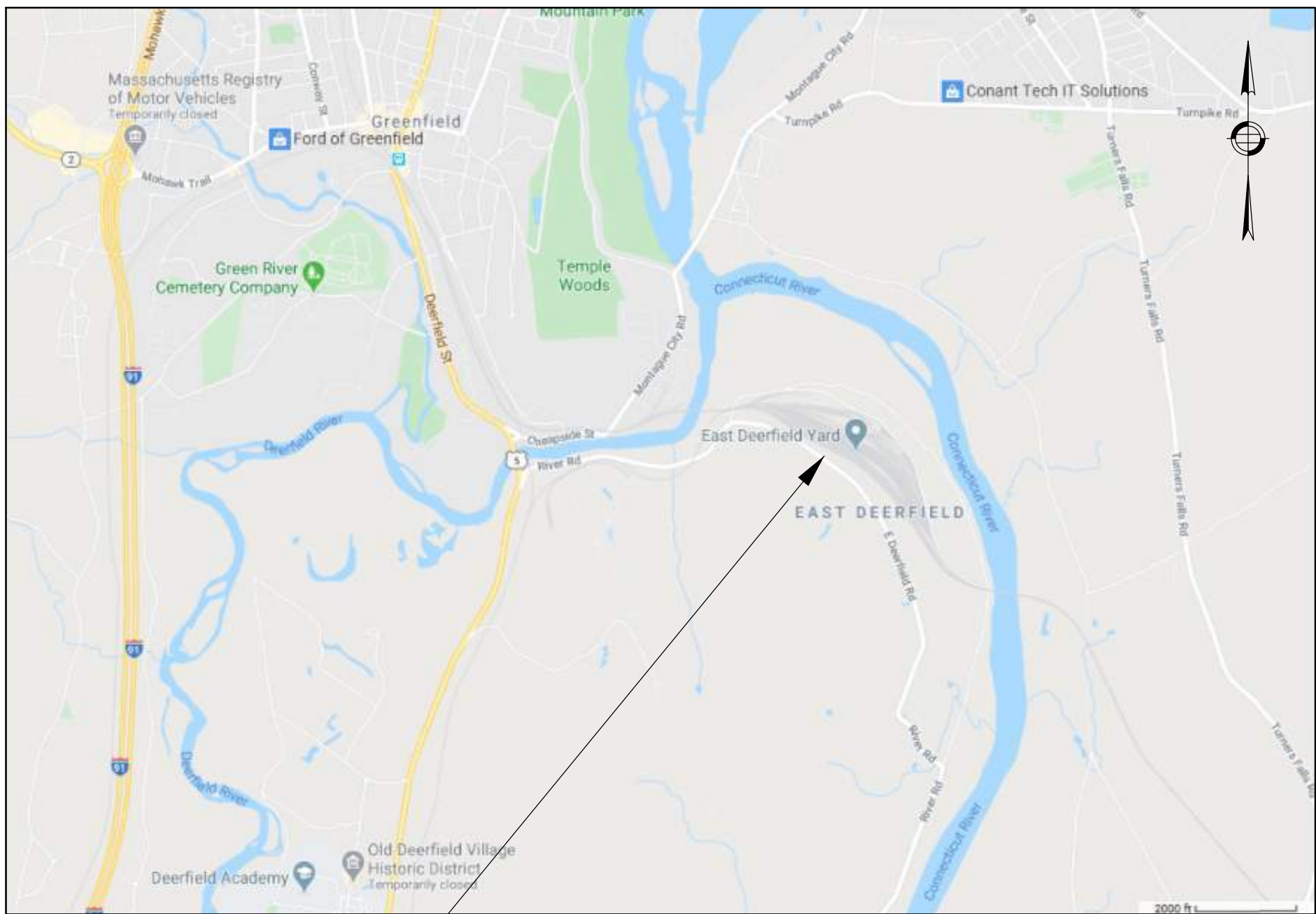
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION RAIL & TRANSIT DIVISION

EAST DEERFIELD YARD - INTERMODAL AND RECEIVING YARD IMPROVEMENTS PROJECT PROJECT LOCATION: EAST DEERFIELD, MA

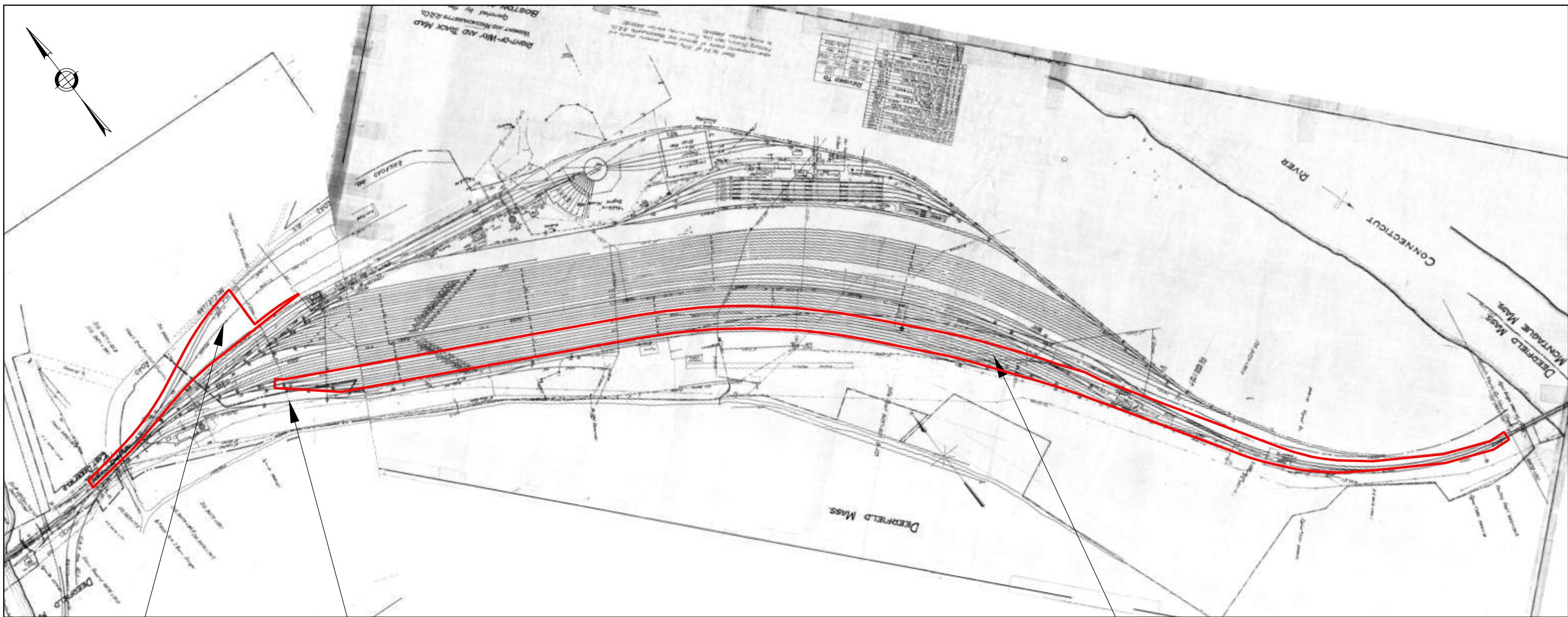
ISSUE FOR CONSTRUCTION 100% SUBMITTAL



LOCUS MAP



PROJECT LOCATION MAP



PROPOSED INTERMODAL
TRANSFER LOCATION

EXISTING MAINLINE
TRACK

AREA OF WORK

PROPOSED RECEIVING
TRACK REHABILITATION



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87 Union St.
Easthampton, MA 01027
413-529-1700

SEALS



J. Serblin
08/30/2024

PROJECT IDENTIFICATION

FEDERAL PROJECT
ID NUMBER
FR-RD-2000

EAST DEERFIELD YARD
INTERMODAL AND RECEIVING
YARD IMPROVEMENTS PROJECT

MARK	DATE	ISSUED FOR CONSTRUCTION	DESCRIPTION	MAV	BY
0	8/28/24				

ISSUE BLOCK

PROJECT NO.:	4020274
DESIGNED BY:	MAV
DRAWN BY:	MAV
CHECKED BY:	JSS
APPROVED BY:	PJB
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DATE:	8/28/2024

COVER SHEET

G-0001
1 OF 44

EAST DEERFIELD YARD INTERMODAL IMPROVEMENTS PROJECT		
PLAN NO.	SHEET	DRAWING NAME
1	G-0001	COVER SHEET
2	G-0101	DRAWING INDEX
3	G-0201	GENERAL ABBREVIATIONS
4	G-0202	GEOMETRIC EQUATIONS
5	G-0301	GENERAL NOTES
6	C-0401	INTERMODAL YARD SITE PLAN
7	K-0001	EXISTING CONDITIONS - SHEET 1 OF 1
8	K-0002	RECEIVING TRACKS TO BE REHABILITATED - SHEET 1 OF 2
9	K-0003	RECEIVING TRACKS TO BE REHABILITATED - SHEET 2 OF 2
10	K-0004	TRACK GEOMETRY DATA - SHEET 1 OF 3
11	K-0005	TRACK GEOMETRY DATA - SHEET 2 OF 3
12	K-0006	TRACK GEOMETRY DATA - SHEET 3 OF 3
13	K-0007	YARD STATIONING SYSTEM SHEET - SHEET 1 OF 1
14	K-0008	TYPICAL SECTIONS - SHEET 1 OF 3
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16	K-0010	TYPICAL SECTIONS - SHEET 3 OF 3
17	K-0100	YARD PLAN AND PROFILE - SHEET 1 OF 6 - MAIN TRACK 2
18	K-0101	YARD PLAN AND PROFILE - SHEET 2 OF 6 - NORTH TOWER TRACK
19	K-0102	YARD PLAN AND PROFILE - SHEET 3 OF 6 - SOUTH TOWER TRACK
20	K-0103	YARD PLAN AND PROFILE - SHEET 4 OF 6 - FARM BUREAU 1
21	K-0104	YARD PLAN AND PROFILE - SHEET 5 OF 6 - FARM BUREAU 2
22	K-0105	YARD PLAN AND PROFILE - SHEET 6 OF 6 - CHUCKY TRACK
23	K-0106	CROSS SECTIONS - SHEET 1 OF 8 - MAIN TRACK 2
24	K-0107	CROSS SECTIONS - SHEET 2 OF 8 - MAIN TRACK 2
25	K-0108	CROSS SECTIONS - SHEET 3 OF 8 - NORTH TOWER TRACK
26	K-0109	CROSS SECTIONS - SHEET 4 OF 8 - NORTH TOWER TRACK
27	K-0110	CROSS SECTIONS - SHEET 5 OF 8 - NORTH TOWER TRACK
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31	K-0200	TYPICAL FULL DEPTH TRACK SECTIONS FOR SINGLE TRACK
32	K-0201	MBTA DRAWING 1000 - TYPICAL ROADBED SECTION DOUBLE & SINGLE TRACK ON TANGENT
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39	K-0208	WESTERN-CULLEN HAYES MODEL 430F CAR STOP DETAIL
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44	K-0213	COMPOST FILTER TUBE DETAIL



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ID NUMBER
FR-RLD-2000

EAST DEERFIELD YARD INTERMODAL AND RECEIVING YARD IMPROVEMENTS PROJECT

[illegible]

0	8/28/24	ISSUED FOR CONSTRUCTION	MA
MARK	DATE	DESCRIPTION	BY

ISSUE BLOCK

PROJECT NO.: 4020274

DESIGNED BY: MAV

DRAWN BY: MAV

CHECKED BY: JSS

APPROVED BY: _____ PJE

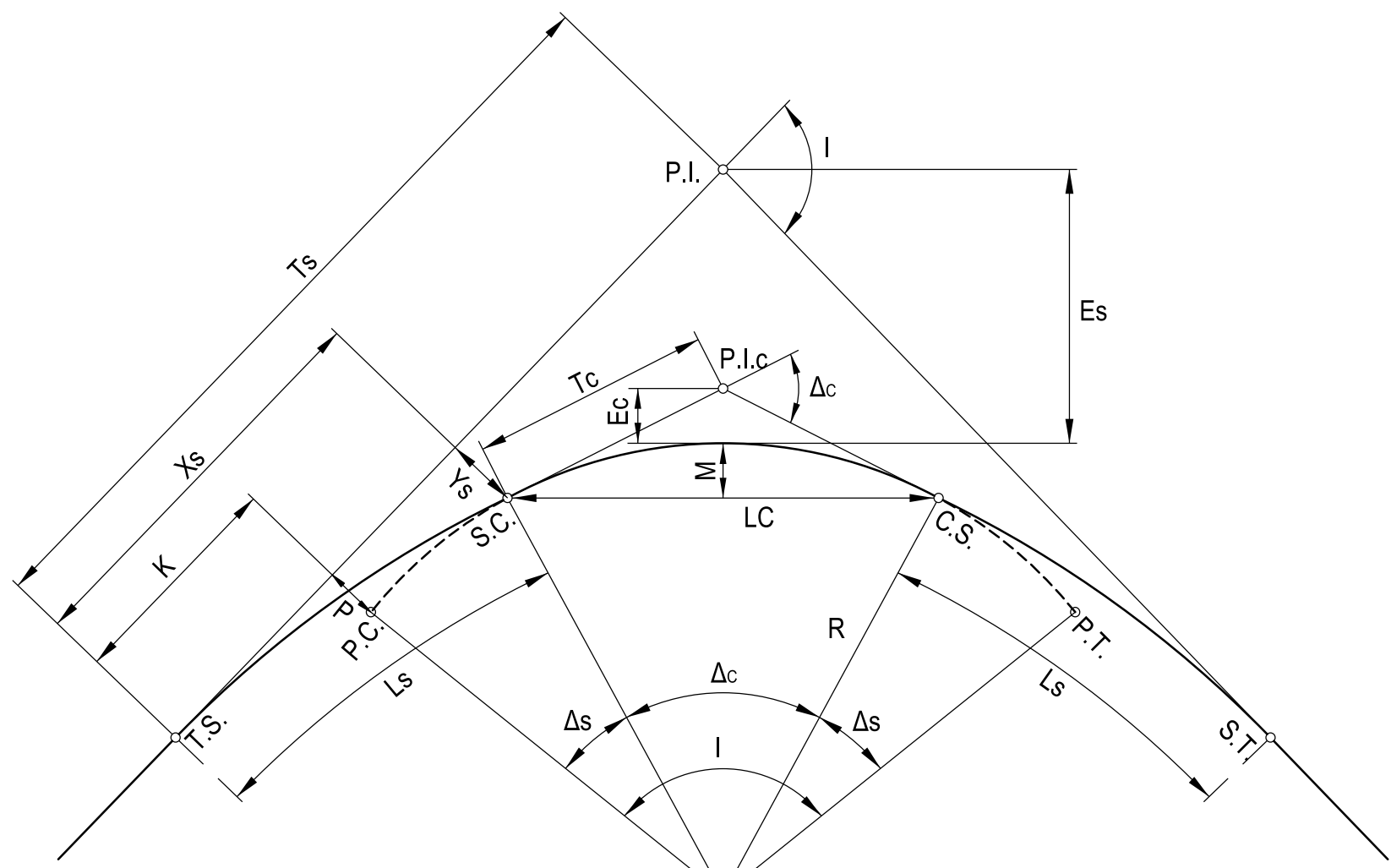
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DATE: 8/28/2024

DRAWING INDEX

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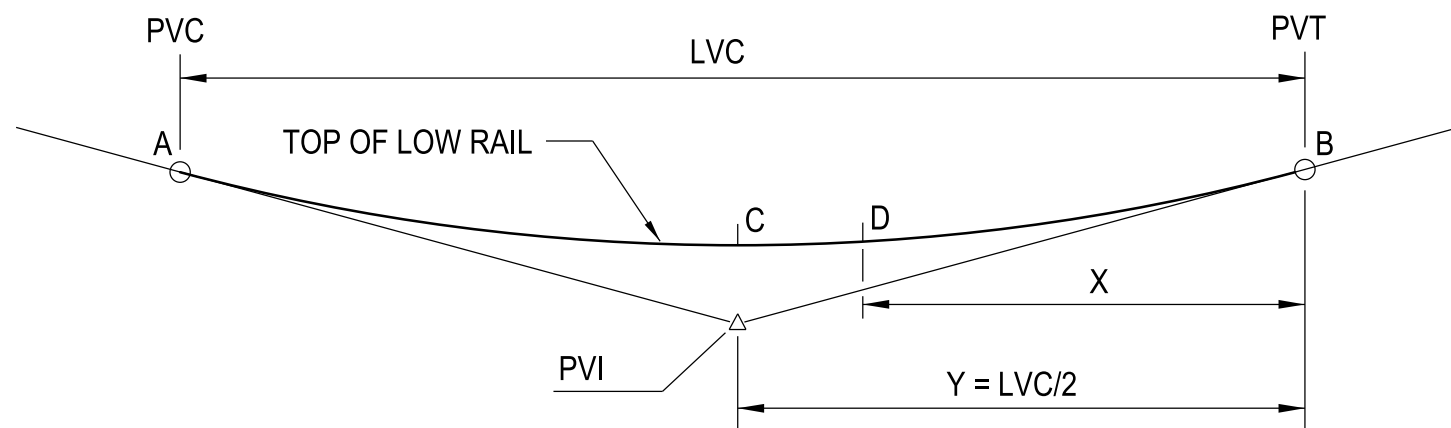
CIRCULAR CURVE AND SPIRAL DEFINITIONS AND EQUATIONS

A	ARBITRARY POINT ON SPIRAL	LT	LENGTH OF LONG TANGENT OF SPIRAL	STs	LENGTH OF SHORT TANGENT OF SPIRAL
CC	CENTER OF CIRCULAR CURVE	M	MID ORDINATE DISTANCE OF CIRCULAR CURVE	Tc	TANGENT LENGTH OF CIRCULAR CURVE
C.S.	POINT OF CHANGE FROM CIRCULAR CURVE TO SPIRAL	P	OFFSET OF PC/PT OF CIRCULAR CURVE MEASURED FROM MAIN TANGENT OR RADIAL SHIFT OF COMPOUND CONNECTING SPIRAL (COMPOUND CURVE WITH SPIRAL)	T.S.	POINT OF CHANGE FROM TANGENT TO SPIRAL
Dc	DEGREE OF CIRCULAR CURVE (CHORD DEFINITION)	P.C.	POINT OF CIRCULAR CURVE	Ts	TANGENT LENGTH FROM TS/ST TO P.I.
Da	DEGREE OF CIRCULAR CURVE (ARC DEFINITION)	P.I.	POINT OF INTERSECTION OF MAIN TANGENTS	X	DISTANCE FROM T.S./S.T. OF ANY POINT (POINT "A") ON SPIRAL PROJECTED TO MAIN TANGENT
Ec	EXTERNAL DISTANCE FROM P.I.c	P.I.c	POINT OF INTERSECTION OF CIRCULAR CURVE TANGENTS	Xs	DISTANCE FROM T.S./S.T. TO S.C./C.S. PROJECTED TO MAIN TANGENT
Es	EXTERNAL DISTANCE FROM P.I.	P.T.	POINT OF TANGENT OF CIRCULAR CURVE	Y	OFFSET OF ANY ARBITRARY POINT "A" ON SPIRAL MEASURED FROM MAIN TANGENT
I	TOTAL CENTRAL ANGLE	R	RADIUS OF CIRCULAR CURVE	Ys	OFFSET OF S.C./C.S. MEASURED FROM MAIN TANGENT
K	DISTANCE FROM T.S./S.T. TO P.C./P.T. OF CIRCULAR CURVE MEASURED ALONG MAIN TANGENT	S.C.	POINT OF CHANGE FROM SPIRAL TO CIRCULAR CURVE	Δ	CENTRAL ANGLE OF SPIRAL L
L	LENGTH OF SPIRAL FROM TS TO ANY POINT (POINT "A") ON SPIRAL	S.I.	POINT OF INTERSECTION OF SPIRAL TANGENTS	θs	CENTRAL ANGLE OF SPIRAL Ls
Ls	TOTAL LENGTH OF SPIRAL	S.T.	POINT OF CHANGE FROM SPIRAL TO TANGENT	φ	DEFLECTION ANGLE OF A CHORD BETWEEN T.S./S.T. AND ANY POINT (POINT "A") ON SPIRAL
LC	LONG CHORD OF CIRCULAR CURVE			Δc	CENTRAL ANGLE OF CIRCULAR CURVE
Lc	LENGTH OF CIRCULAR CURVE				

$$X = \frac{1}{100} [100 - 0.3046174198 \theta^2 (10)^{-2} + 0.429591539 \theta^4 (10)^{-7} - 0.301987076 \theta^6 (10)^{-12}] = Xs \text{ AT THE SC/CS}$$

$$Y = \frac{1}{100} [0.5817764173 \theta - 0.126585165 \theta^3 (10)^{-4} + 0.122691057 \theta^5 (10)^{-9}] = Ys \text{ AT THE SC/CS}$$

$$\begin{aligned} \Delta c &= I - 2\theta s & Es &= (R+P) \text{EXSEC} \frac{1}{2} + P & M &= R(1 - \cos \frac{\Delta c}{2}) & Da &= \frac{5729.58}{R} \\ \Delta s &= \frac{Ls}{200} \left(\frac{36,000}{R} \right) & K &= Xs - R \sin \theta s & P &= Ys - R(1 - \cos \theta s) & E &= R \left(\frac{1}{\cos(\frac{\Delta c}{2})} - 1 \right) \\ \theta &= \left(\frac{L}{Ls} \right) \Delta s & LC &= 2 R \sin \frac{\Delta c}{2} & S.T.s &= \frac{Ys}{\sin \theta s} \\ \phi &= \arctan \frac{Y}{X} & Lc &= 100 \frac{\Delta c}{Dc} & Tc &= R \tan \frac{\Delta c}{2} \\ Dc &= 2 \arcsin \frac{50}{R} & LT &= Xs - \frac{Ys}{\tan \theta s} & Ts &= (R+P) \tan \frac{1}{2} + K \end{aligned}$$

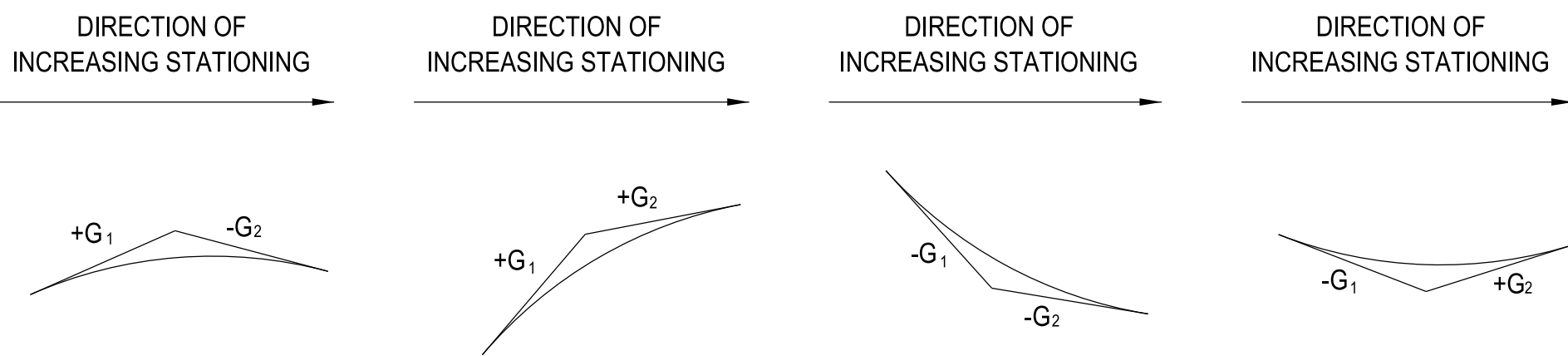


VERTICAL CURVE GEOMETRY

$$\text{NOTE: ELEV C} = \frac{2 \text{ ELEV PVI} + \text{ELEV A} + \text{ELEV B}}{4}$$

OFFSET AT C = DIFFERENCE BETWEEN ELEV C & ELEV PVI
 OFFSET AT D = OFFSET AT C(X/Y)²
 TOP OF RAIL AT D = OFFSET AT D ± GRADIENT ELEV AT D

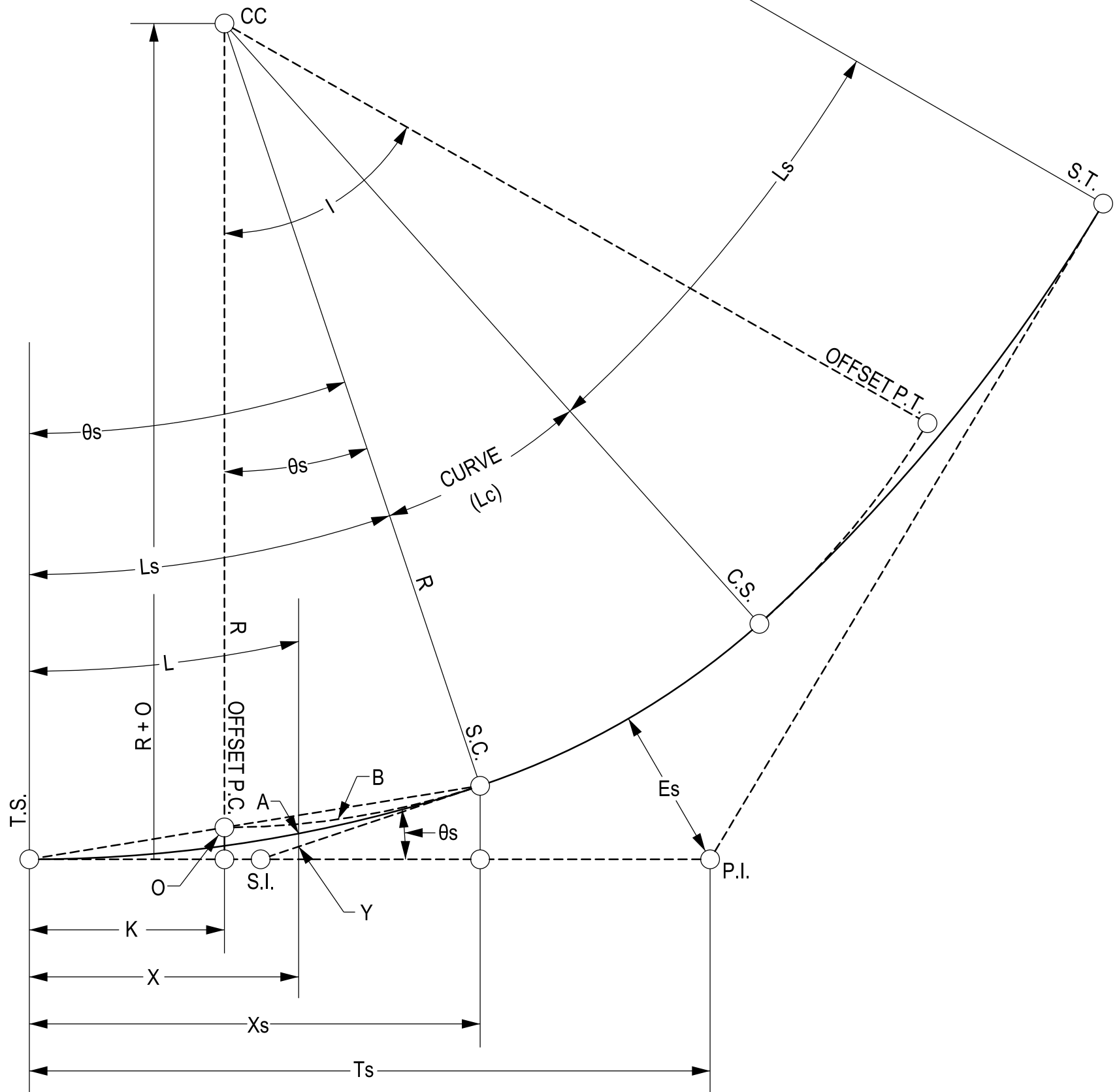
VERTICAL CURVE GEOMETRY STANDARDS



CREST TYPE VERTICAL CURVES

SAG TYPE VERTICAL CURVES

DEFINITIONS: r = RATE OF CHANGE IN GRADE PER 100' STATION
 G₁, G₂ = GRADIENT EXPRESSED AS FEET PER 100' STATION
 LVC = LENGTH OF VERTICAL CURVE IN FEET



AREMA SPIRAL TRANSITION EQUATIONS

D	DEGREE OF CIRCULAR CURVE
d	DEGREE OF CURVATURE OF THE SPIRAL AT ANY POINT
I	LENGTH FROM THE T.S. OR S.T., TO ANY POINT ON THE CURVE HAVING COORDINATES X AND Y
s	LENGTH I IN 100-FOOT STATIONS
Ls	TOTAL LENGTH OF SPIRAL
S	LENGTH L IN 100-FOOT STATIONS
δ	CENTRAL ANGLE OF THE SPIRAL FROM THE T.S. OR S.T. TO ANY POINT ON THE SPIRAL
θs	CENTRAL ANGLE OF THE WHOLE SPIRAL
a	DEFLECTION ANGLE FROM THE TANGENT AT THE T.S. OR S.T. TO ANY POINT ON THE SPIRAL
b	ORIENTATION ANGLE FROM THE TANGENT AT ANY POINT ON THE SPIRAL TO THE T.S. OR S.T.
k	INCREASE IN DEGREE OF CURVATURE PER 100-FOOT STATION ALONG THE SPIRAL
O	DISTANCE BETWEEN SPIRAL TANGENT AND P.C./P.T. AT DISTANCE K
φ	ANGLE BETWEEN THE TANGENT SPIRAL (Ts) AND A CHORD DRAWN BETWEEN T.S. AND ARBITRARY POINT A

$$\begin{aligned} d &= ks = \frac{kl}{100}; & D &= kS = \frac{kl}{100} \\ \delta &= \frac{1}{2}ks^2 = \frac{dI^2}{200}; & \theta s &= \frac{1}{2}kS^2 = \frac{Dl}{200} \\ a &= \frac{1}{3}\delta = \frac{1}{6}ks^3; & A &= \frac{1}{3}\theta s = \frac{1}{6}kS^3 \\ b &= \frac{2}{3}\delta; & B &= \frac{2}{3}\theta s \\ y &= 0.5826s - 0.00001264\delta^3s \\ x &= 1 - 0.003048\delta^2s \\ O &= 0.1454\Delta S \\ K &= \frac{1}{2}Ls - 0.000508\Delta^2s \\ Ts &= (R+O)\tan(\frac{1}{2}) + Xo \\ Es &= (R+O)\text{ex sec}(\frac{1}{2}) + o \end{aligned}$$

HORIZONTAL AND VERTICAL GEOMETRY NOTES

- Δ, Δc, I, θ, θs, φ, AND Dc IN DEGREES. ALL OTHER DIMENSIONS IN FEET.
- REFERENCE T. HICKERSON, ROUTE LOCATION AND DESIGN, MCGRAW-HILL, INC., 1967
- REFERENCE AREMA FIGURE 5-3-1. SPIRAL APPLICATIONS

VERTICAL CURVE DEFINITIONS

PVI	POINT OF VERTICAL INTERSECTION
PVC	POINT OF VERTICAL CURVATURE
PVT	POINT OF VERTICAL TANGENCY
POVT	POINT ON VERTICAL TANGENT
EL	ELEVATION
PGL	PROFILE GRADE LINE



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 INTERMODAL AND RECEIVING
 YARD IMPROVEMENTS PROJECT

0	8/28/24	ISSUED FOR CONSTRUCTION	MAV
MARK	DATE	DESCRIPTION	BY

ISSUE BLOCK

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DATE: 8/28/2024

GEOMETRIC EQUATIONS

G-0202
 4 OF 44

D

C

B

A

A. GENERAL NOTES	
1.	EXISTING CONDITIONS ARE BASED ON AVAILABLE EXISTING TOPOGRAPHIC PLAN AND SURVEY, PERFORMED BY HOLMBERG & HOWE, INC., JULY 2020.
2.	VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988. HORIZONTAL DATUM IS MA STATE PLANE COORDINATE SYSTEM BASED ON NORTH AMERICAN DATUM (NAD) OF 1983.
3.	ALL DIMENSIONS, LOCATIONS AND ELEVATIONS OF KNOWN EXISTING STRUCTURES SHOWN ON CONTRACT DRAWINGS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE ORDERING MATERIALS AND COMMENCING CONSTRUCTION.
4.	CONTRACTOR SHALL SUBMIT ALL REQUIRED SHOP DRAWINGS AND RECEIVE APPROVAL PRIOR TO FABRICATION OR DELIVERY OF MATERIALS TO THE SITE.
5.	UNLESS INDICATED, DRAWINGS ARE NOT TO SCALE.
6.	DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONAL INFORMATION.
B. DESIGN CODES, GUIDELINES, AND STANDARDS	
THE TRACK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING CODES, GUIDELINES, SPECIFICATIONS AND STANDARDS:	
1.	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA) COMMUTER RAIL DESIGN STANDARDS MANUAL
2.	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA) BOOK OF STANDARD PLANS
3.	AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION (AREMA) "MANUAL FOR RAILWAY ENGINEERING", AREMA 2017, WITH ALL CURRENT INTERIM REVISIONS (REFERRED TO HEREINAFTER AS AREMA).
4.	MASSDOT MW-1 SPECIFICATIONS
C. CONSTRUCTION	
1.	THE CONTRACTOR SHALL OBTAIN AND BE COGNIZANT OF THE RAILROADS SAFETY RULES AND REGULATIONS AND CONDUCT HIS OPERATIONS IN STRICT ACCORDANCE WITH THE SAME. THE CONTRACTOR, IN ADDITION TO HIS OWN SAFETY RULES, MUST ABIDE BY PAN AM SOUTHERN'S RULES WHILE WORKING ON OR NEAR RAILROAD FACILITIES. THE CONTRACTOR MUST ALSO UNDERGO SAFETY TRAINING IN ACCORDANCE WITH PAN AM SOUTHERN AND FEDERAL RAILROAD ADMINISTRATION REQUIREMENTS PRIOR TO STARTING WORK.
D. MISCELLANEOUS	
1.	DUE TO THE NATURE OF EXISTING CONDITIONS, THE EXACT EXTENT OF WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATION TO CONSTRUCTION DETAILS, DIMENSIONS AND WORK QUANTITIES. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
2.	ALL CONSTRUCTION OPERATIONS, SUCH AS WORK AREAS USED FOR MATERIAL DELIVERY AND STORAGE, ACCESS TO AND FROM WORK AREAS, TIMING OF WORK, SPECIAL CONSIDERATIONS OF NOISY OPERATIONS, INTERRUPTION OF ELECTORAL SERVICES, ETC. SHALL BE COORDINATED WITH PAN AM SOUTHERN AND IN COMPLIANCE WITH LOCAL LAWS.
3.	ALL WORK IS TO BE PERFORMED WITH CARE SO THAT MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF MASSDOT RAIL WILL NOT BE DAMAGED. IF ANY SUCH MATERIALS ARE DAMAGED, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO MASSDOT RAIL AT THE CONTRACTOR'S OWN EXPENSE.
4.	THE CONTRACTOR SHALL SUBMIT TO MASSDOT RAIL AND PAN AM SOUTHERN THE PROPOSED METHOD OF WORK AND IDENTIFICATION OF EQUIPMENT TO BE USED, PRIOR TO START OF CONSTRUCTION.
E. TRACK WORK	
1.	THE CONTRACTOR SHALL ENTER INTO A SERVICE AGREEMENT WITH PAN AM SOUTHERN TO PROCURE RAILROAD FLAGGING FOR THE PROJECT.
2.	THE CONTRACTOR SHALL CONSTRUCT THE TRACK BED FOR THE PROPOSED TRACK ALIGNMENT IN ACCORDANCE WITH THE SPECIFICATIONS TO AN ELEVATION AT APPROXIMATELY THE BOTTOM OF THE EXISTING TIES OVER THE LENGTH OF THE TRACK WITHIN THE PROJECT LIMITS.
3.	CONTRACTOR WILL REMOVE AND PROPERLY DISPOSE OF EXISTING RAILS AND TIES.
4.	THE CONTRACTOR SHALL FURNISH AND INSTALL BALLAST TO CONSTRUCT THE PROPOSED TRACK BED IN ACCORDANCE WITH NOTE 2.
5.	ALL TRACK MATERIAL TO BE SUPPLIED BY MASSDOT EXCEPT AS NOTED IN THE SPECIFICATIONS.
6.	SPECIAL TRACKWORK MANUFACTURER'S SHOP DRAWINGS WILL BE PROVIDED AT A LATER DATE AND MAY VARY SLIGHTLY FROM MBTA STANDARDS.
F. SUBMITTALS	
1.	THE CONTRACTOR SHALL SUBMIT PRODUCT DATA, MATERIAL TEST REPORTS, MATERIAL CERTIFICATES, QUARRY SOURCE, AND QUALIFICATION DATA OF PERSONNEL INVOLVED IN THE INSTALLATION OF THE BITUMINOUS DAMPPROOFING.
2.	THE CONTRACTOR SHALL SUBMIT A MATERIAL SPECIFICATION TO THE ENGINEER FOR APPROVAL PRIOR TO THE APPLICATION. THE MATERIALS MUST BE ON THE MASSDOT QUALIFIED MATERIALS LIST.
3.	THE CONTRACTOR SHALL PROVIDE TO MASSDOT ALL WORK RELATED SUBMITTALS AS DEFINED BY CONTRACT DOCUMENTS FOR ACCEPTANCE AND APPROVAL.

EAST DEERFIELD QUANTITIES					
	ITEM	UNIT	INTERMODAL TRANSFER TRACK IMPROVEMENTS	RECEIVING TRACK IMPROVEMENTS	TOTAL
			QUANTITY	QUANTITY	QUANTITY
1	SCHEDULE OF OPERATIONS	LUMP SUM	-	-	1
2	PRE-CONSTRUCTION SURVEY AND AS-BUILT PLANS	LUMP SUM	-	-	1
3	MOBILIZATION / DEMOBILIZATION	LUMP SUM	-	-	1
4	EXCAVATION AND WASTING OF EXCAVATED MATERIAL	CY	2,300	-	2,300
5	REMOVAL OF EXISTING TRACK	TF	2,735	825	3,560
6	FURNISH AND INSTALL (F & I) NEW SUBBALLAST	TON	500	-	500
7	FURNISH AND INSTALL NEW M2.01.7 DENSE GRADED CRUSHED STONE	TON	2,400	-	2,400
8	INSTALL (I) NEW 136RE YARD TRACKS	TF	2,041	-	2,041
9	REHABILITATE EXISTING RECEIVING YARD TRACKS	TF	-	17,250	17,250
10	FURNISH AND INSTALL (F & I) NEW STONE BALLAST	TON	4,000	10,000	14,000
11	ASSEMBLY AND INSTALLATION OF NO. 10 TURNOUT	EA	1	5	6
12	ASSEMBLY AND INSTALLATION OF NO. 8 TURNOUT	EA	3	-	3
13	REHABILITATE EXISTING #10 TURNOUT	EA	1	4 NOTE G	5
14	LINE, SURFACE, TAMP, DRESS TRACK AND TURNOUTS	TF	3,299	18,735	22,034
15	CLEAN UP AND DISPOSE OF REMOVED OR SCRAP CROSSTIES AND TIMBERS	TON	130	540	670
16	FURNISH, ASSEMBLY AND INSTALL (F, A & I) NEW SLIDING BLOCK DERAIL	EA	1	-	1
17	FURNISH, ASSEMBLY AND INSTALL (F, A & I) NEW HINGED BLOCK DERAIL	EA	4	-	4
18	FURNISH AND INSTALL (F & I) NEW WHEEL STOP	EA	4	-	4
19	FURNISH AND INSTALL (F & I) RUBBER RAIL SEAL CROSSING (WITH ASPHALT)	TF	366	-	366
20	FURNISH AND INSTALL (F & I) RUBBER RAIL SEAL CROSSING (WITH BALLAST, FARM BUREAU 1)	TF	347	-	347
21	FURNISH AND INSTALL COMPOST FILTER TUBES	LF	700	5,400	6,100
22	FURNISH AND INSTALL HOT MIX ASPHALT (HMA) PAVEMENT	TON	150	-	150
23	ALLOWANCE FOR TRAFFIC MANAGEMENT	ALLOWANCE	-	-	1
24	ALLOWANCE FOR ENVIRONMENTAL AND EROSION AND SEDIMENTATION CONTROL	ALLOWANCE	-	-	1
25	ALLOWANCE FOR EXISTING SITE UTILITY WORK	ALLOWANCE	-	-	1
26	RISK ALLOWANCE	ALLOWANCE	-	-	1

NOTES
(G) - INCLUDES FROG PLATE REPLACEMENT AND GUARDRAIL INSTALLATION

INTERMODAL YARD TURNOUT INFORMATION			
TO SIZE	THROUGH TRACK	TRACK P.S. STA	TRACK LLT STA
NO. 10 115RE LH (REHAB)	MAIN TRACK 2	503+64.18	504+68.14
NO. 10 136RE LH	SOUTH TOWER TRACK	10+01.35	11+14.96
NO. 8 136RE LH	NORTH TOWER TRACK	23+63.23	24+59.32
NO. 8 136RE LH	FARM BUREAU 1	30+98.24	31+94.33
NO. 8 136RE RH	CHUCKY TRACK	51+31.49	52+27.57

RECEIVING YARD TURNOUT INFORMATION			
TO	TO SIZE	THROUGH TRACK	DESCRIPTION
R1A	NO. 10 115RE RH	R1	REHAB WITH FROG AND FULL TIMBER PKG
R2A	NO. 10 115RE RH	R2	REHAB WITH FROG AND FULL TIMBER PKG
R3A	NO. 10 115RE RH	R3	REHAB WITH FROG AND FULL TIMBER PKG
R4A	NO. 10 100NH RH	R4	REHAB WITH FROG AND FULL TIMBER PKG
R2B	NO. 10 LH	R1	FULL REPLACEMENT
R3B	NO. 10 115RE LH	R1	FULL REPLACEMENT
R4B	NO. 10 115RE LH	R1	FULL REPLACEMENT
R5B	NO. 10 115RE LH	R1	FULL REPLACEMENT
R8B	NO. 10 115RE RH	R8	FULL REPLACEMENT

SURVEY CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	3035549.322	366733.249	172.352	MTRV 1
2	3035639.605	366428.310	181.795	MTRV 2
3	3035565.952	367141.809	171.338	MTRV 3
5	3035731.417	367046.091	173.279	MTRV 5
6	3035771.123	367337.060	174.135	MTRV 6
7	3035368.984	366247.665	199.260	MDHL
8	3035487.535	366272.071	194.767	MTRV 8
9	3035361.112	366250.981	198.746	MTRV 9
10	3035916.846	367672.193	162.277	MTRV 10
11	3035309.057	366295.885	199.100	MTRV 11
14	3035457.986	366729.233	172.290	MTRV 14
15	3035398.569	366444.438	170.909	MTRV 15
16	3035376.735	366233.255	170.485	MTRV 16
17	3035481.570	366534.025	171.842	MTRV 17
18	3035566.400	366773.546	171.884	MTRV 18
19	3035632.930	366973.126	170.972	MTRV 19
20	3035722.430	367237.305	172.333	MTRV 20
21	3035726.190	367316.064	172.110	MTRV 21
22	3035711.690	367553.632	171.955	MTRV 22

GROUND CONTOL WAS ESTABLISHED THROUGH THE USE OF GPS, UTILIZING NAD 83 AS THE HORIZONTAL DATUM AND NAVD 88 AS THE VERTICAL DATUM.



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781-229-0707

Holmberg & Howe Inc.
87 Union St.
Easthampton, MA 01027
413-529-1700

SEALS



J. Serblin
12/18/2024

PROJECT IDENTIFICATION

FEDERAL PROJECT
ID NUMBER
FR-RLD-2000

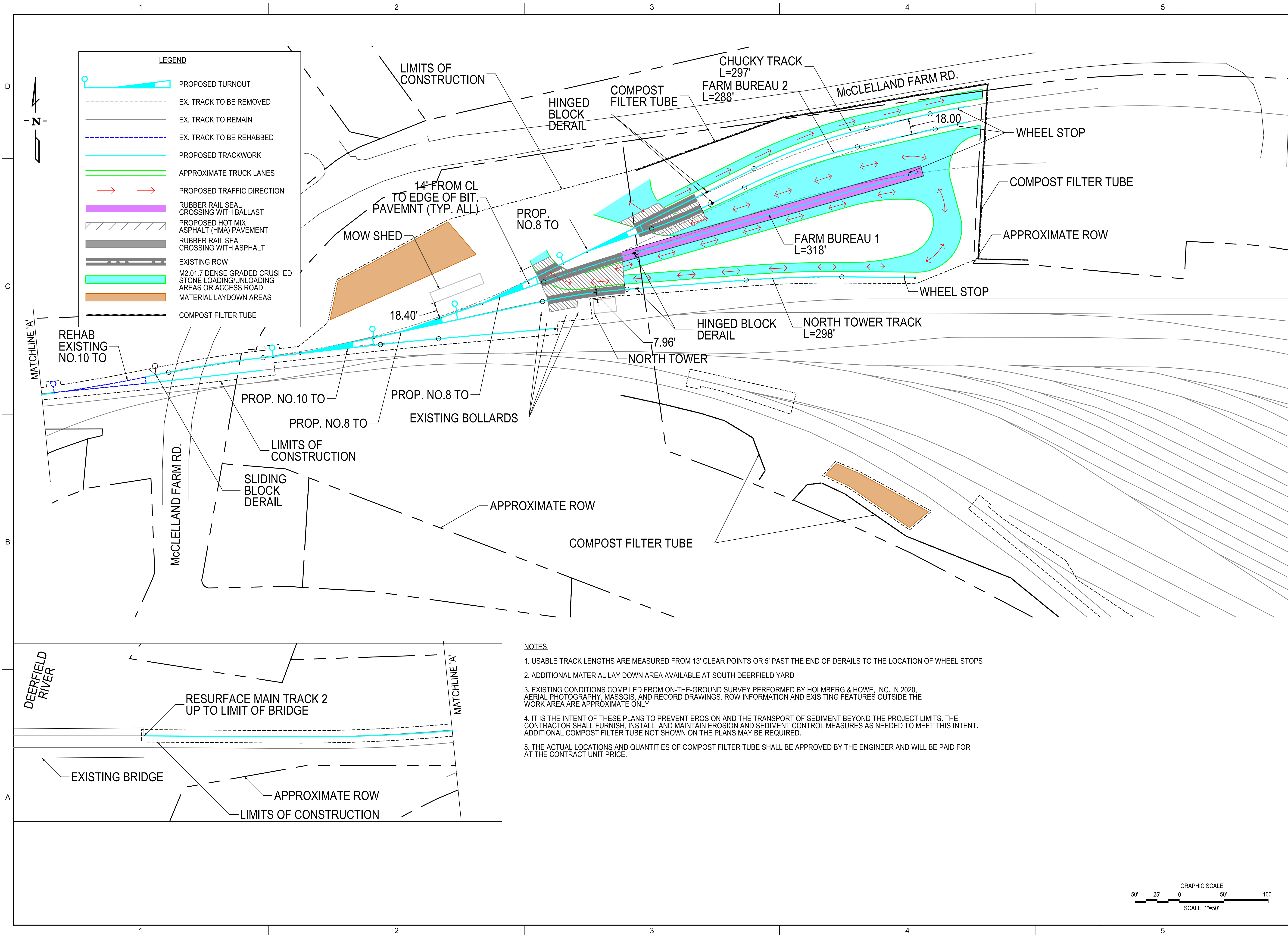
EAST DEERFIELD YARD
INTERMODAL AND RECEIVING
YARD IMPROVEMENTS PROJECT

1	12/18/24	ADDENDUM 1	MAV
0	8/28/24	ISSUED FOR CONSTRUCTION	MAV
MARK	DATE	DESCRIPTION	BY

ISSUE BLOCK

PROJECT NO.: 4020274
DESIGNED BY: MAV
DRAWN BY: MAV
CHECKED BY: JSS
APPROVED BY: PJB
COPYRIGHT: STV INCORPORATED
DATE: 8/28/2024

GENERAL NOTES



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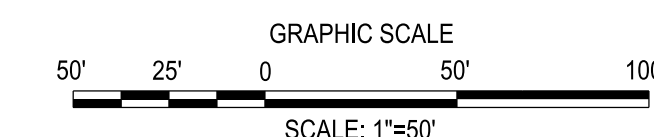
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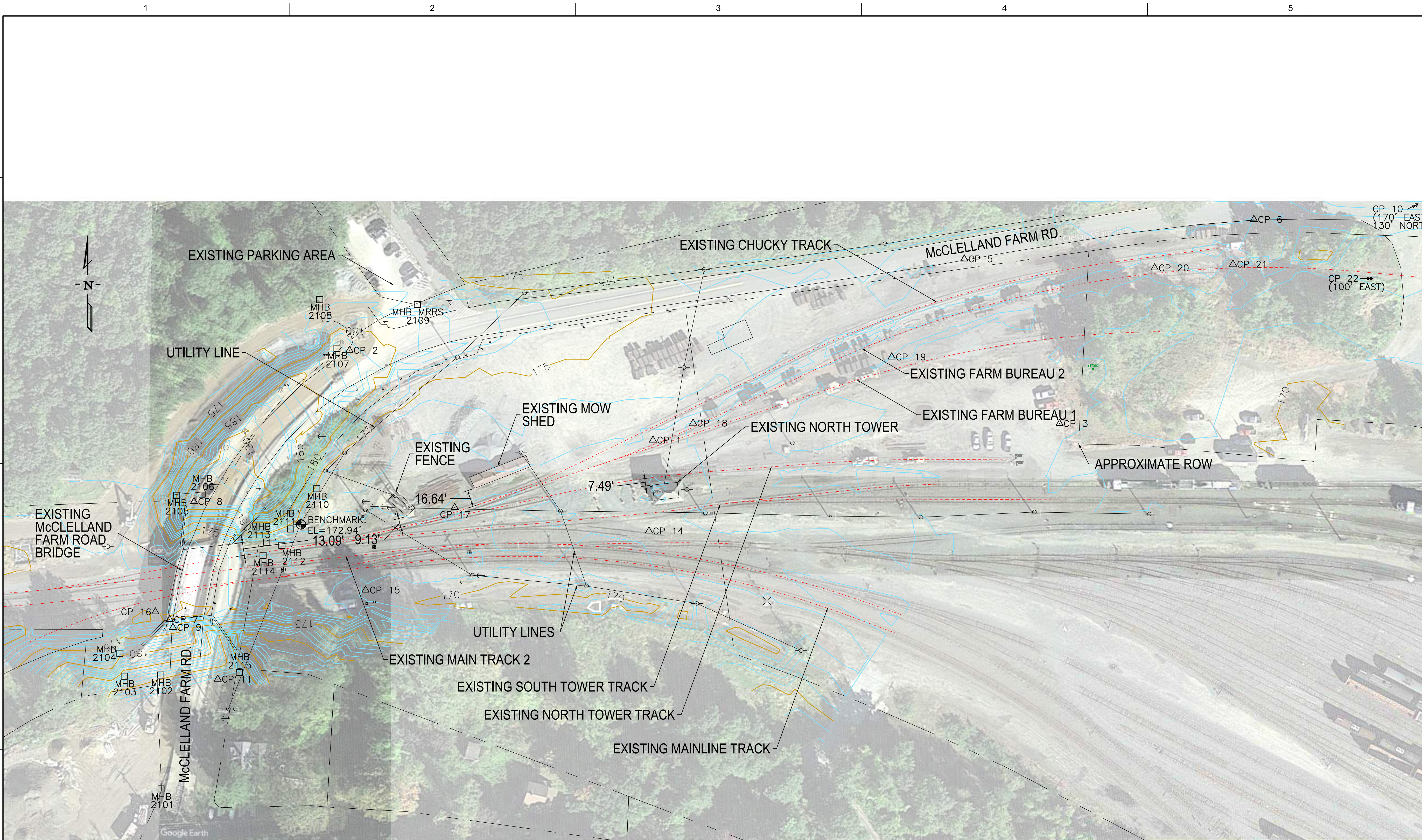
INTERMODAL YARD
SITE PLAN

C-0401
6 OF 44

NOTES:

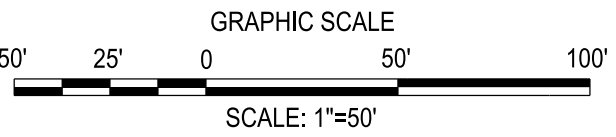
1. USABLE TRACK LENGTHS ARE MEASURED FROM 13' CLEAR POINTS OR 5' PAST THE END OF DERAILS TO THE LOCATION OF WHEEL STOPS
2. ADDITIONAL MATERIAL LAY DOWN AREA AVAILABLE AT SOUTH DEERFIELD YARD
3. EXISTING CONDITIONS COMPILED FROM ON-THE-GROUND SURVEY PERFORMED BY HOLMBERG & HOWE, INC. IN 2020. AERIAL PHOTOGRAPHY, MASSGIS, AND RECORD DRAWINGS. ROW INFORMATION AND EXISTING FEATURES OUTSIDE THE WORK AREA ARE APPROXIMATE ONLY.
4. IT IS THE INTENT OF THESE PLANS TO PREVENT EROSION AND THE TRANSPORT OF SEDIMENT BEYOND THE PROJECT LIMITS. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES AS NEEDED TO MEET THIS INTENT. ADDITIONAL COMPOST FILTER TUBE NOT SHOWN ON THE PLANS MAY BE REQUIRED.
5. THE ACTUAL LOCATIONS AND QUANTITIES OF COMPOST FILTER TUBE SHALL BE APPROVED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.





LEGEND

- △ CP - CONTROL POINT
- MHB - MASS HIGHWAY BOUND
- WATER GATE - WATER MAIN GATE BOX
- UTILITY POLE
- GUY WIRE
- ELECTRIC HAND HOLE
- ⊛ LIGHT POLE
- ⊙ (MAN HOLE)
- CATCH BASIN
- ⊣ TRAFFIC SIGNAL SPAN WIRE POLE



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EAST DEERFIELD YARD
INTERMODAL AND RECEIVING
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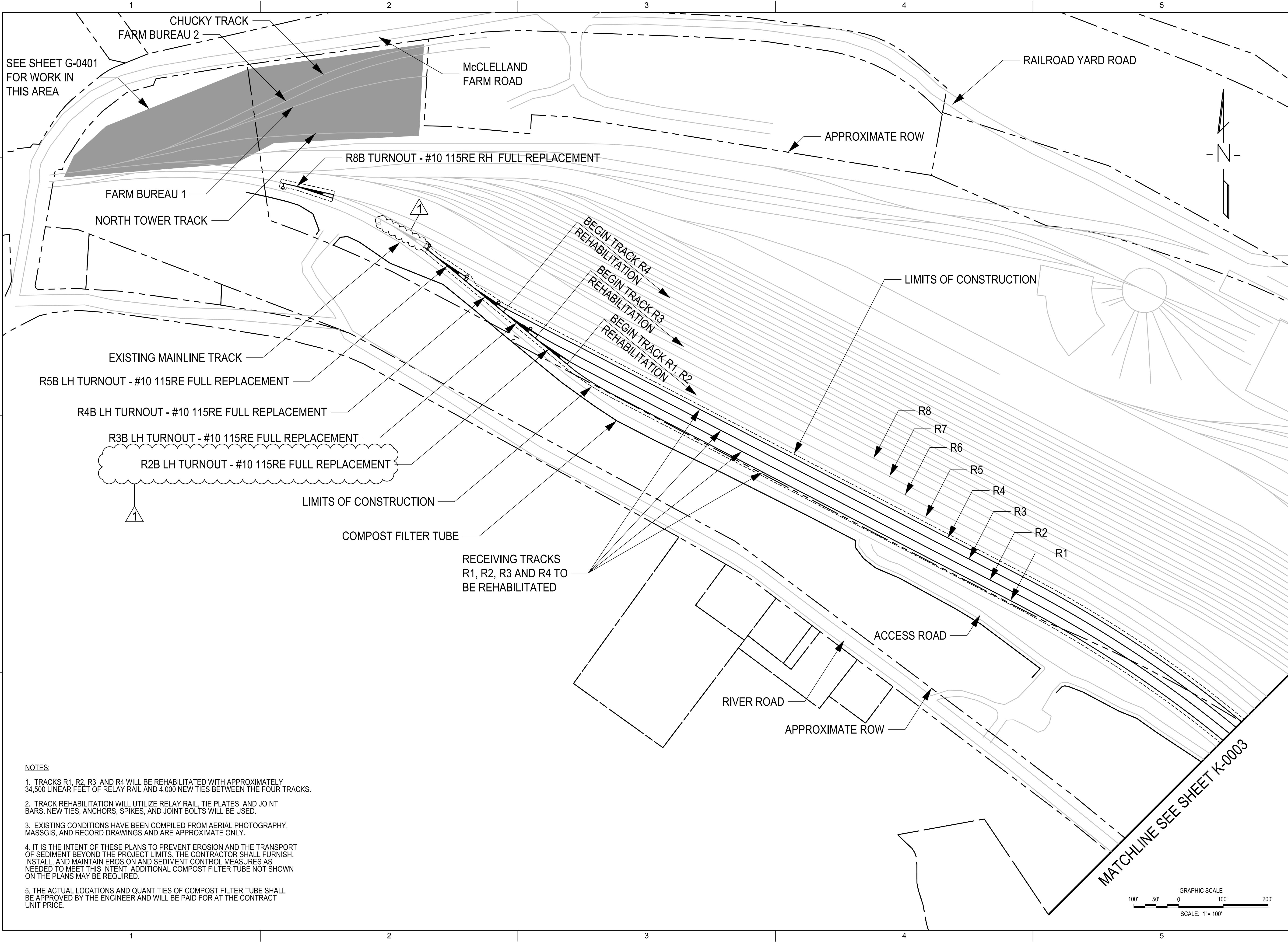
ISSUE BLOCK

PROJECT NO.:	4020274
DESIGNED BY:	MAV
DRAWN BY:	MAV
CHECKED BY:	JSS
APPROVED BY:	PJB
COPYRIGHT:	STV INCORPORATED
DATE:	8/28/2024

EXISTING
CONDITIONS

SHEET 1 OF 1

K-0001
7 OF 44



- NOTES:
1. TRACKS R1, R2, R3, AND R4 WILL BE REHABILITATED WITH APPROXIMATELY 34,500 LINEAR FEET OF RELAY RAIL AND 4,000 NEW TIES BETWEEN THE FOUR TRACKS.
 2. TRACK REHABILITATION WILL UTILIZE RELAY RAIL, TIE PLATES, AND JOINT BARS. NEW TIES, ANCHORS, SPIKES, AND JOINT BOLTS WILL BE USED.
 3. EXISTING CONDITIONS HAVE BEEN COMPILED FROM AERIAL PHOTOGRAPHY, MASSGIS, AND RECORD DRAWINGS AND ARE APPROXIMATE ONLY.
 4. IT IS THE INTENT OF THESE PLANS TO PREVENT EROSION AND THE TRANSPORT OF SEDIMENT BEYOND THE PROJECT LIMITS. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES AS NEEDED TO MEET THIS INTENT. ADDITIONAL COMPOST FILTER TUBE NOT SHOWN ON THE PLANS MAY BE REQUIRED.
 5. THE ACTUAL LOCATIONS AND QUANTITIES OF COMPOST FILTER TUBE SHALL BE APPROVED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.



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J. Serblin
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0	8/28/24	ISSUED FOR CONSTRUCTION		MAV
MARK	DATE	DESCRIPTION		BY

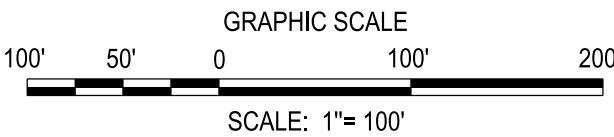
ISSUE BLOCK




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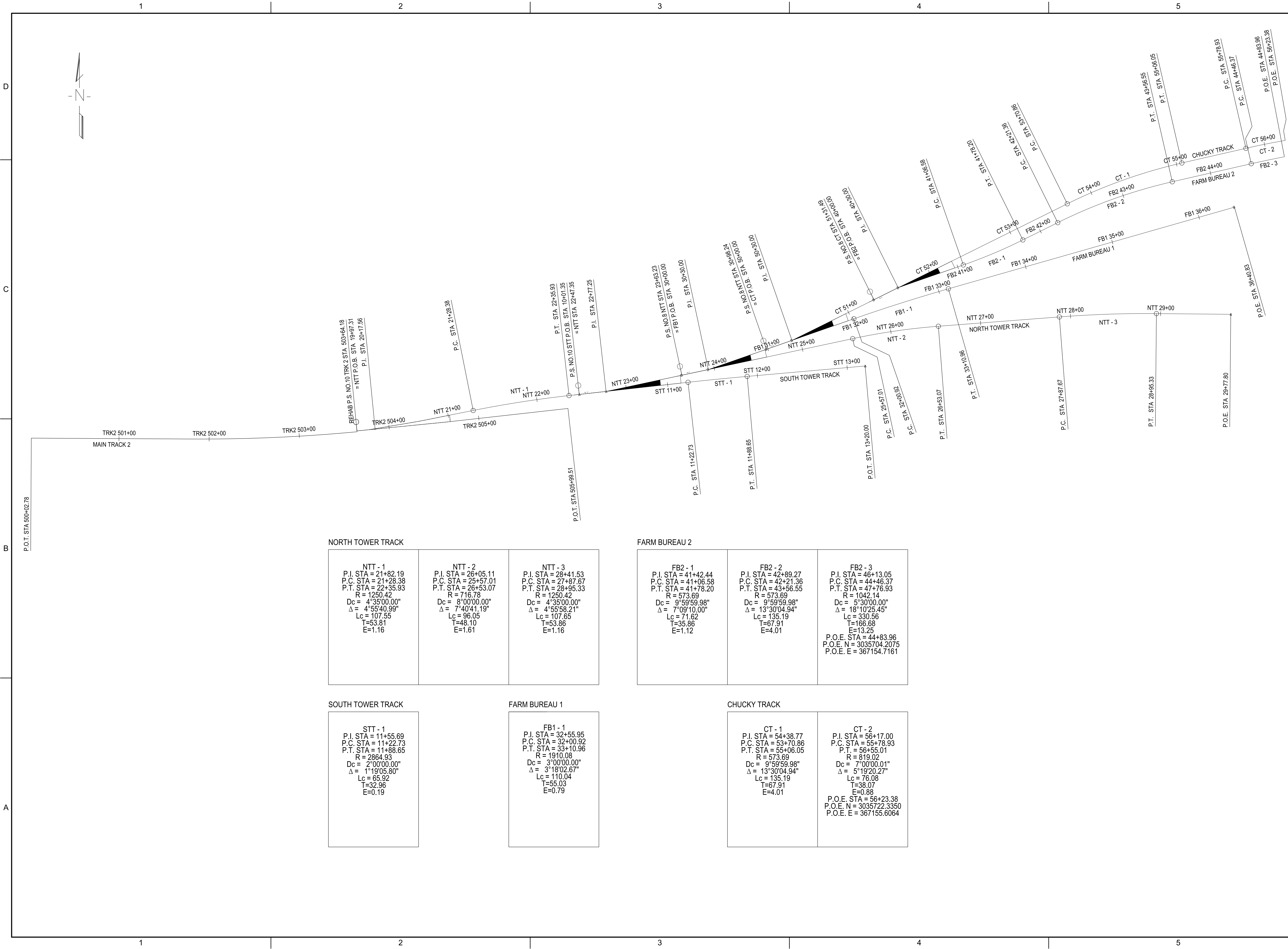
RECEIVING
TRACKS TO BE
REHABILITATED

SHEET 1 OF 2

K-0002
8 OF 44



	1	2	3	4	5																																																																																																																																																																																																							
	TRACK GEOMETRY DATA - CHUCKY TRACK					<div>1</div> <div></div> <div>CONSULTANTS</div> <div><div></div><div>STV Incorporated One Financial Center Boston MA 02111 617-482-7293 www.stvinc.com</div></div> <div>Harris Miller Miller & Hanson Inc. 700 District Avenue, Ste 800 Burlington, MA 01803 781-229-0707</div> <div>Holmberg & Howe Inc. 87 Union St. Easthampton, MA 01027 413-529-1700</div>																																																																																																																																																																																																						
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B	<table><tr><th rowspan="2">ELEMENT</th><th rowspan="2">CURVE No.</th><th rowspan="2">POINT</th><th rowspan="2">STATION</th><th rowspan="2">BEARING</th><th colspan="2">COORDINATES</th><th colspan="4" rowspan="2">DATA</th></tr><tr><th>NORTHING</th><th>EASTING</th></tr><tr><td>TANGENT</td><td></td><td>P.O.B.</td><td>40+00.00</td><td rowspan="2">N 63°36'23.55" E</td><td>3035545.5892</td><td>366699.5371</td><td colspan="4">Lt = 30.00'</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="4"></td></tr><tr><td></td><td></td><td>P.I.</td><td>40+30.00</td><td rowspan="2">N 70°45'33.55" E</td><td>3035558.9252</td><td>366726.4100</td><td colspan="4"></td></tr><tr><td>TANGENT</td><td></td><td></td><td></td><td></td><td></td><td colspan="4">Lt = 76.58'</td></tr><tr><td rowspan="3">CURVE</td><td rowspan="3">FB2 - 1</td><td>P.C.</td><td>41+06.58</td><td rowspan="3"></td><td>3035584.1611</td><td>366798.7123</td><td colspan="4">CURVE SET: ANGLE(I) = 7°09'10.00" LEFT LENGTH = 71.62 lc = 7°09'10.00" Dc = 9°59'59.98" R = 573.69' Lc(CHORD) = 71.53'</td></tr><tr><td>P.I.c.</td><td></td><td>3035595.9770</td><td>366832.5654</td><td colspan="4">PI: N = 3035595.9770 E = 366832.5654 Tc = 35.86' Ec = 1.12' CC: N = 3036125.8025 E = 366609.6615</td></tr><tr><td>P.T.</td><td>41+78.20</td><td>3035611.9161</td><td>366864.6838</td><td colspan="4">PI STATION = 41+42.44 V = 10 MPH Ee = 0.70" Ea = 0" Eu = 0.70"</td></tr><tr><td>TANGENT</td><td></td><td></td><td></td><td rowspan="2">N 63°36'23.55" E</td><td></td><td></td><td colspan="4">Lt = 43.17'</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="4"></td></tr><tr><td rowspan="3">CURVE</td><td rowspan="3">FB2 - 2</td><td>P.C.</td><td>42+21.36</td><td rowspan="3"></td><td>3035631.1046</td><td>366903.3499</td><td colspan="4">CURVE SET: ANGLE(I) = 13°30'04.94" RIGHT LENGTH = 135.19 lc = 13°30'04.94" Dc = 9°59'59.98" R = 573.69' Lc(CHORD) = 135.01'</td></tr><tr><td>P.I.c.</td><td></td><td>3035661.2916</td><td>366964.1786</td><td colspan="4">PI: N = 3035661.2916 E = 366964.1786 Tc = 67.91' Ec = 4.01' CC: N = 3035117.2182 E = 367158.3722</td></tr><tr><td>P.T.</td><td>43+56.55</td><td>3035676.4427</td><td>367030.3740</td><td colspan="4">PI STATION = 42+89.27 V = 10 MPH Ee = 0.70" Ea = 0" Eu = 0.70"</td></tr><tr><td>TANGENT</td><td></td><td></td><td></td><td rowspan="2">N 77°06'28.50" E</td><td></td><td></td><td colspan="4">Lt = 89.82'</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="4"></td></tr><tr><td rowspan="3">CURVE</td><td rowspan="3">FB2 - 3</td><td>P.C.</td><td>44+46.37</td><td rowspan="3"></td><td>3035696.4838</td><td>367117.9337</td><td colspan="4">CURVE SET: ANGLE(I) = 18°10'25.45" RIGHT LENGTH = 330.56 lc = 18°10'25.45" Dc = 5°30'00.00" R = 1042.14' Lc(CHORD) = 330.43'</td></tr><tr><td>P.I.c.</td><td></td><td>3035733.6725</td><td>367280.4111</td><td colspan="4">PI: N = 3035733.6725 E = 367280.4111 Tc = 166.68' Ec = 13.25' CC: N = 3034680.6126 E = 367350.4516</td></tr><tr><td>P.T.</td><td>47+76.93</td><td>3035718.3294</td><td>367446.3824</td><td colspan="4">PI STATION = 46+13.05 V = 10 MPH Ee = 0.38" Ea = 0" Eu = 0.38"</td></tr><tr><td>TANGENT</td><td></td><td></td><td></td><td rowspan="3">N 84°43'06.06" W</td><td></td><td></td><td colspan="4">Lt = 78.10'</td></tr><tr><td></td><td></td><td>P.O.T.</td><td>48+55.03</td><td>3035711.1403</td><td>367524.1495</td><td colspan="4" rowspan="2"></td></tr></table> <p>NOTE: END TRACK CONSTRUCTION AT FB2 P.O.E. STA 44+83.96 (N: 3035704.2075, E: 367154.7161)</p>					ELEMENT	CURVE No.	POINT	STATION	BEARING	COORDINATES		DATA				NORTHING	EASTING	TANGENT		P.O.B.	40+00.00	N 63°36'23.55" E	3035545.5892	366699.5371	Lt = 30.00'																P.I.	40+30.00	N 70°45'33.55" E	3035558.9252	366726.4100					TANGENT						Lt = 76.58'				CURVE	FB2 - 1	P.C.	41+06.58		3035584.1611	366798.7123	CURVE SET: ANGLE(I) = 7°09'10.00" LEFT LENGTH = 71.62 lc = 7°09'10.00" Dc = 9°59'59.98" R = 573.69' Lc(CHORD) = 71.53'				P.I.c.		3035595.9770	366832.5654	PI: N = 3035595.9770 E = 366832.5654 Tc = 35.86' Ec = 1.12' CC: N = 3036125.8025 E = 366609.6615				P.T.	41+78.20	3035611.9161	366864.6838	PI STATION = 41+42.44 V = 10 MPH Ee = 0.70" Ea = 0" Eu = 0.70"				TANGENT				N 63°36'23.55" E			Lt = 43.17'														CURVE	FB2 - 2	P.C.	42+21.36		3035631.1046	366903.3499	CURVE SET: ANGLE(I) = 13°30'04.94" RIGHT LENGTH = 135.19 lc = 13°30'04.94" Dc = 9°59'59.98" R = 573.69' Lc(CHORD) = 135.01'				P.I.c.		3035661.2916	366964.1786	PI: N = 3035661.2916 E = 366964.1786 Tc = 67.91' Ec = 4.01' CC: N = 3035117.2182 E = 367158.3722				P.T.	43+56.55	3035676.4427	367030.3740	PI STATION = 42+89.27 V = 10 MPH Ee = 0.70" Ea = 0" Eu = 0.70"				TANGENT				N 77°06'28.50" E			Lt = 89.82'														CURVE	FB2 - 3	P.C.	44+46.37		3035696.4838	367117.9337	CURVE SET: ANGLE(I) = 18°10'25.45" RIGHT LENGTH = 330.56 lc = 18°10'25.45" Dc = 5°30'00.00" R = 1042.14' Lc(CHORD) = 330.43'				P.I.c.		3035733.6725	367280.4111	PI: N = 3035733.6725 E = 367280.4111 Tc = 166.68' Ec = 13.25' CC: N = 3034680.6126 E = 367350.4516				P.T.	47+76.93	3035718.3294	367446.3824	PI STATION = 46+13.05 V = 10 MPH Ee = 0.38" Ea = 0" Eu = 0.38"				TANGENT				N 84°43'06.06" W			Lt = 78.10'						P.O.T.	48+55.03	3035711.1403	367524.1495				
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PROJECT IDENTIFICATION

FEDERAL PROJECT
ID NUMBER
FR-RLD-2000

EAST DEERFIELD YARD
INTERMODAL AND RECEIVING
YARD IMPROVEMENTS PROJECT

0	8/28/24	ISSUED FOR CONSTRUCTION	MAV
MARK	DATE	DESCRIPTION	BY

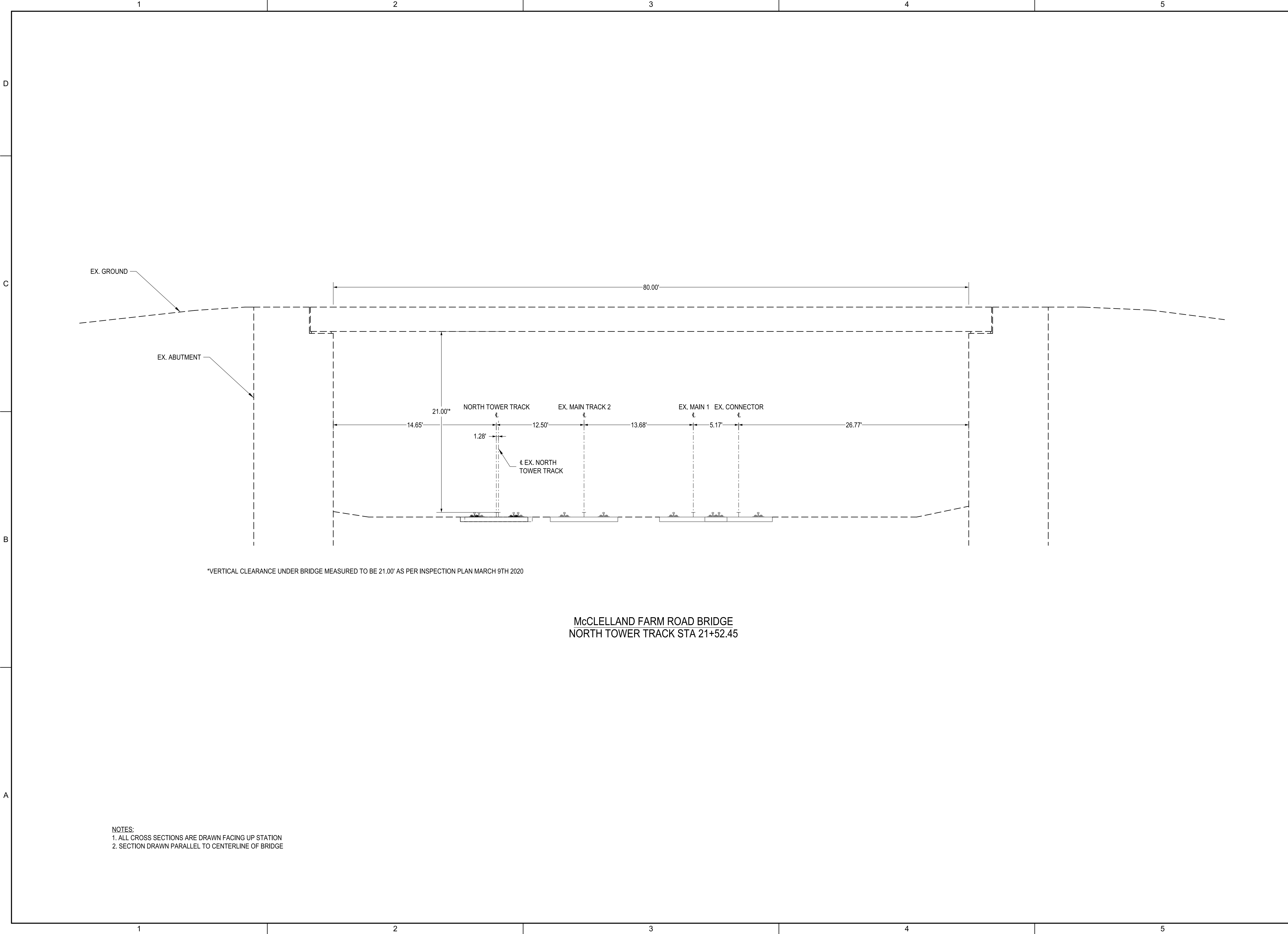
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YARD STATIONING
SYSTEM SHEET

SHEET 1 OF 1

K-0007
13 OF 44



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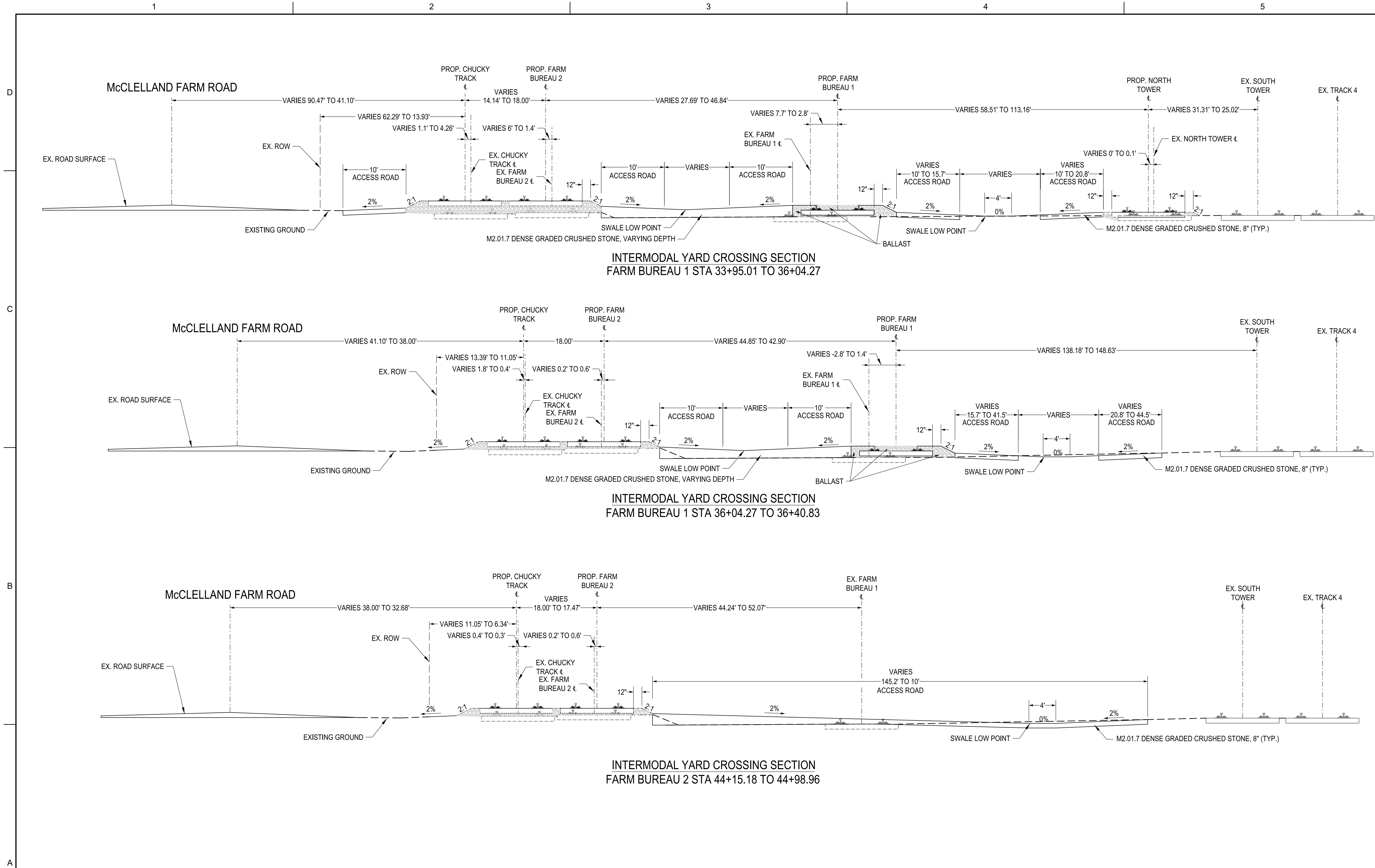
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TYPICAL SECTIONS

SHEET 1 OF 3

K-0008
14 OF 44



NOTES:
1. ALL CROSS SECTIONS ARE DRAWN FACING UP STATION
2. FOR RUBBER RAIL SEAL AND BITUMINOUS CONCRETE CROSSING DETAIL, SEE SHEET K-0205



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J. Serblin
08/30/2024

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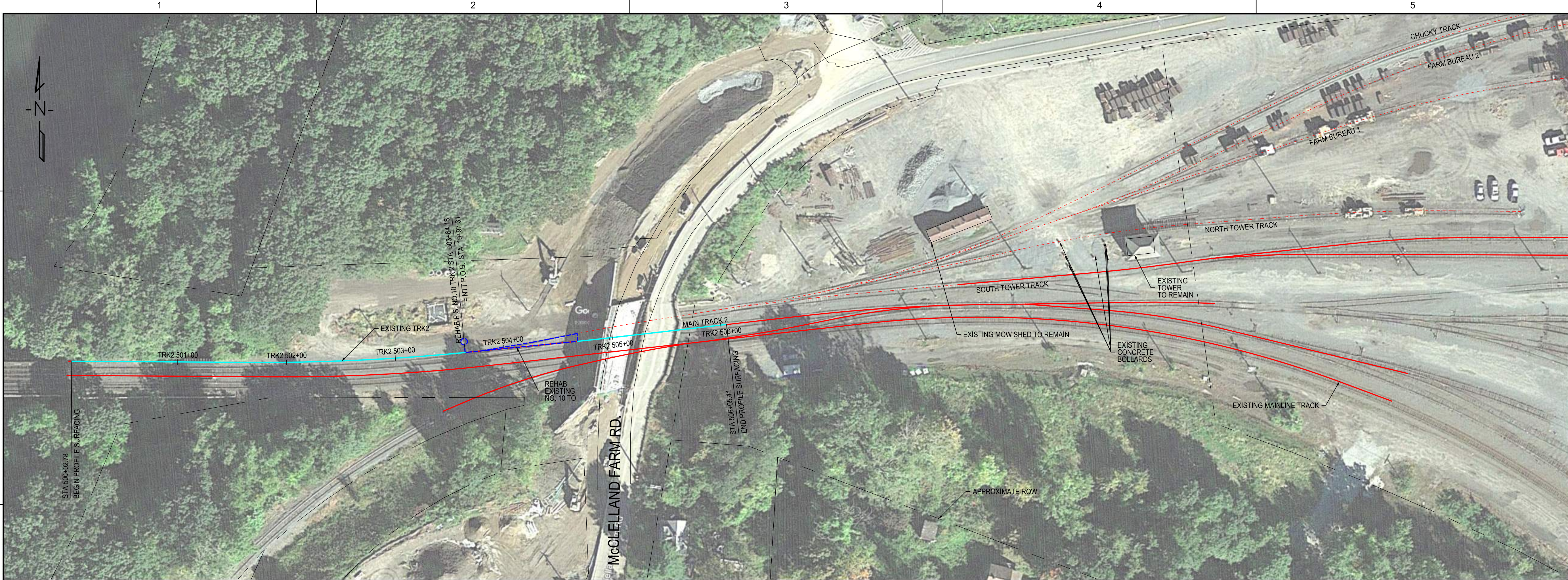
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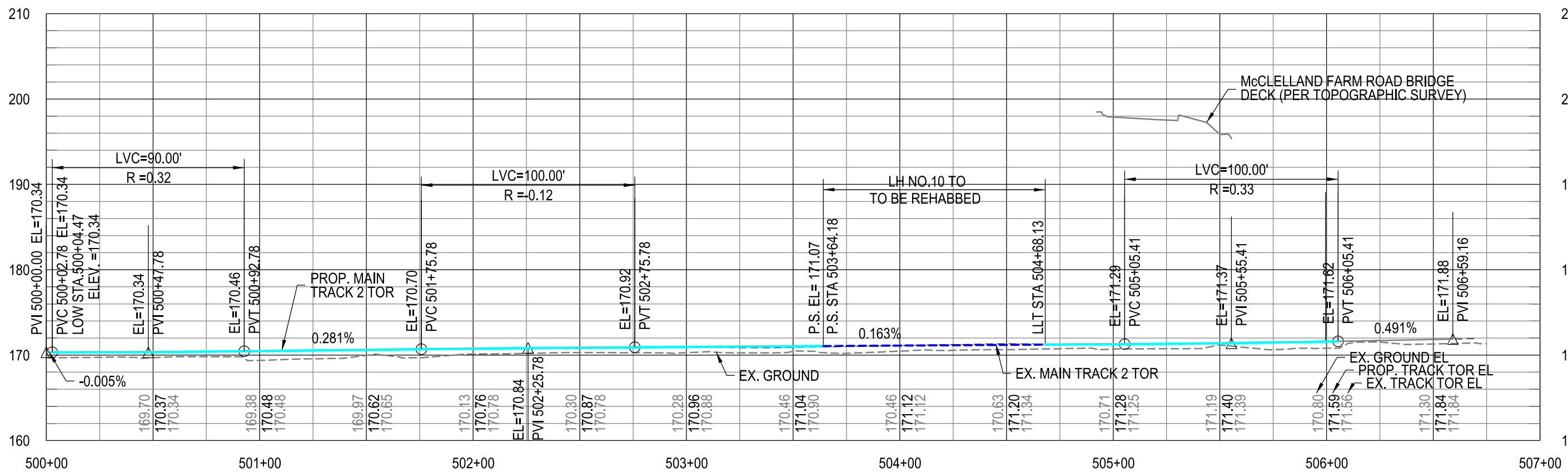
TYPICAL SECTIONS

SHEET 3 OF 3

K-0010
16 OF 44

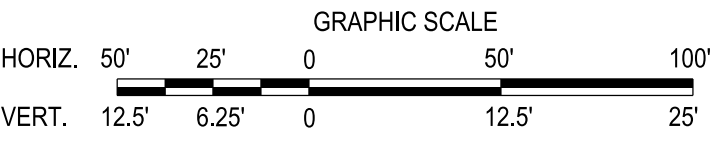


MAIN TRACK 2 PLAN



MAIN TRACK 2 PROFILE

NOTES:
1. SEE SHEET G-0401 FOR LEGEND
2. SEE SHEET K-0008 FOR VERTICAL CLEARANCE UNDER BRIDGE
3. TRACK ELEVATIONS SHOWN ON PROFILES ARE BASED ON TOP OF RAIL ELEVATION



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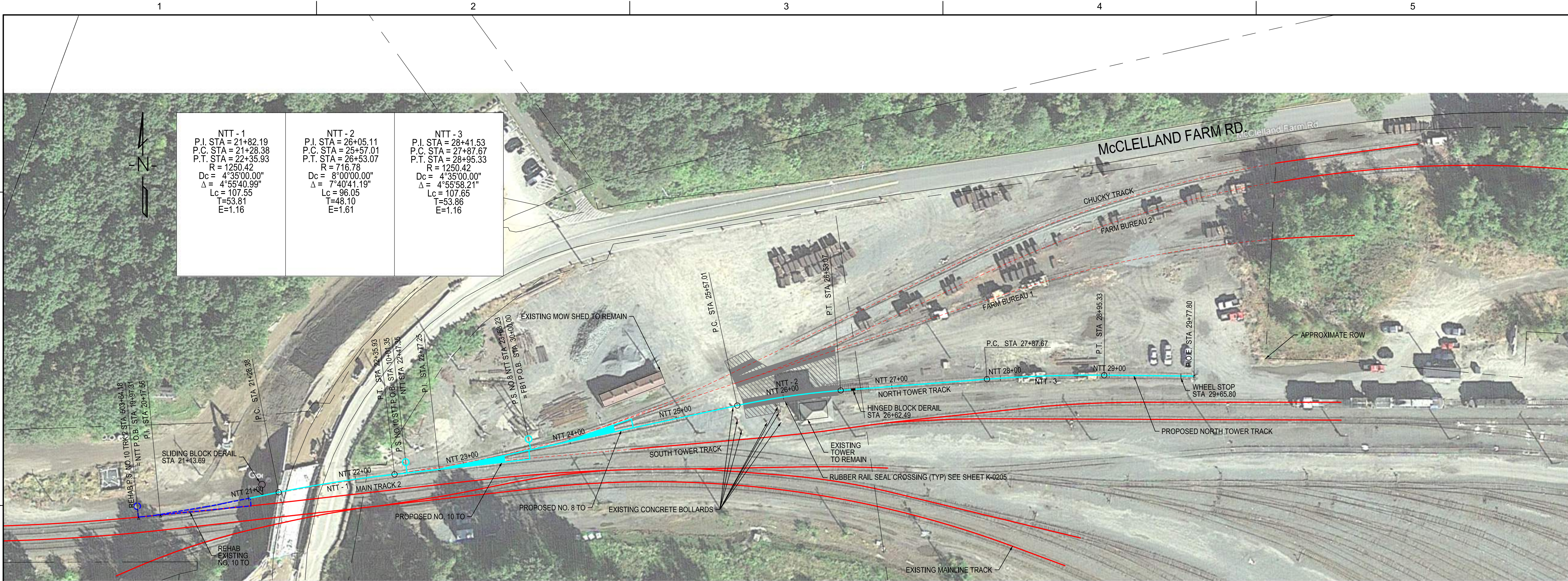
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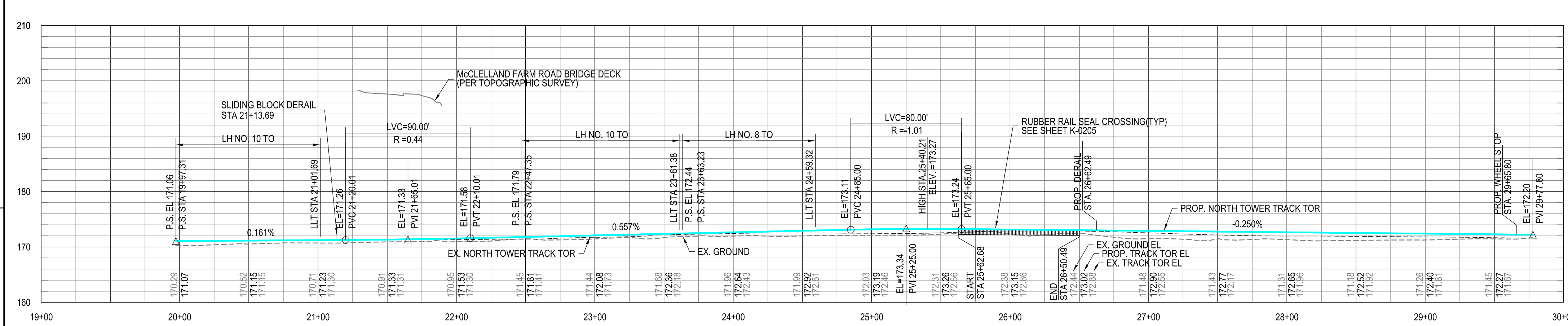
YARD PLAN
AND PROFILE
SHEET 1 OF 6

MAIN TRACK 2

K-0100
17 OF 44

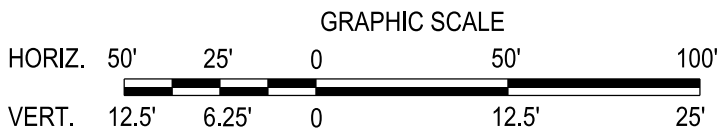


NORTH TOWER TRACK PLAN



NORTH TOWER TRACK PROFILE

NOTES:
1. SEE SHEET G-0401 FOR LEGEND
2. SEE SHEET K-0008 FOR VERTICAL CLEARANCE UNDER BRIDGE



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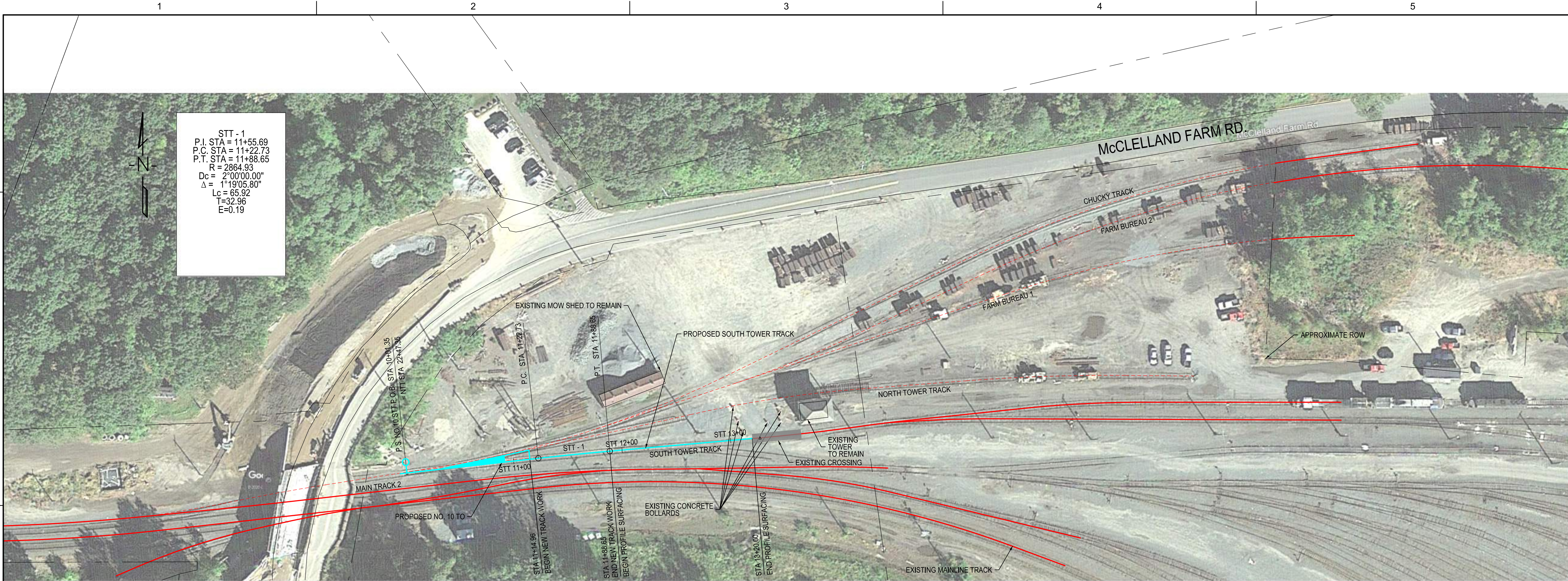
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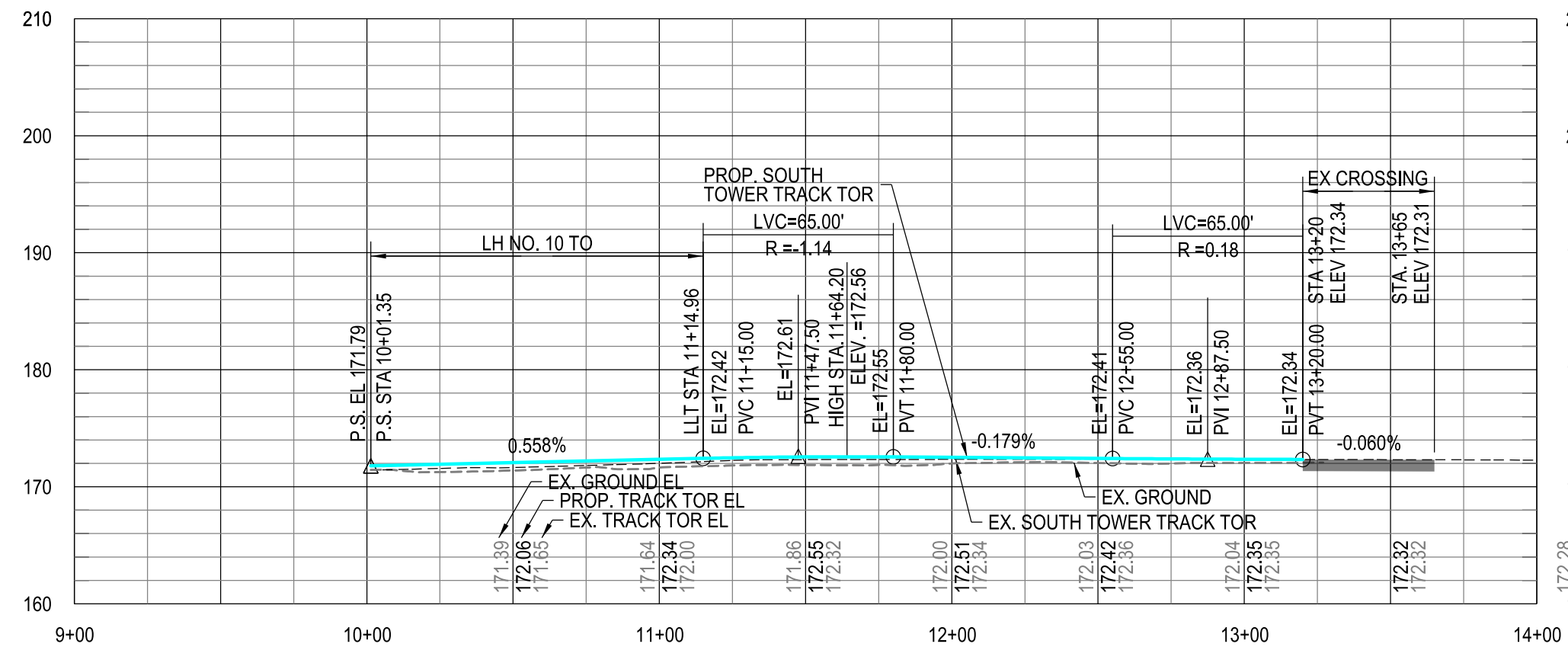
YARD PLAN
AND PROFILE
SHEET 2 OF 6

NORTH TOWER TRACK

K-0101
18 OF 44

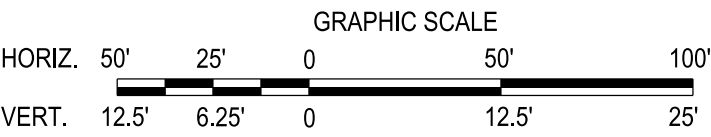


SOUTH TOWER TRACK PLAN



SOUTH TOWER TRACK PROFILE

NOTE:
1. SEE SHEET G-0401 FOR LEGEND
2. TRACK ELEVATIONS SHOWN ON PROFILES ARE BASED ON TOP OF RAIL ELEVATION



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J. Serblin
08/30/2024

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EAST DEERFIELD YARD
INTERMODAL AND RECEIVING
YARD IMPROVEMENTS PROJECT

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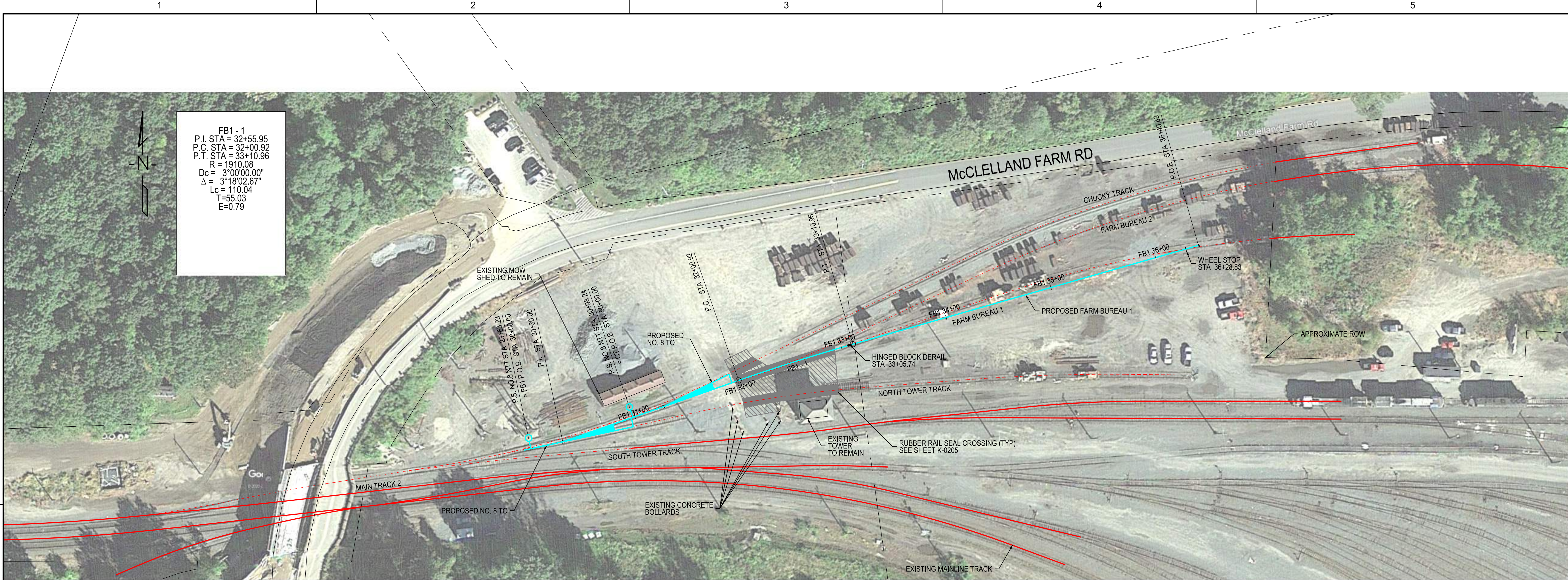
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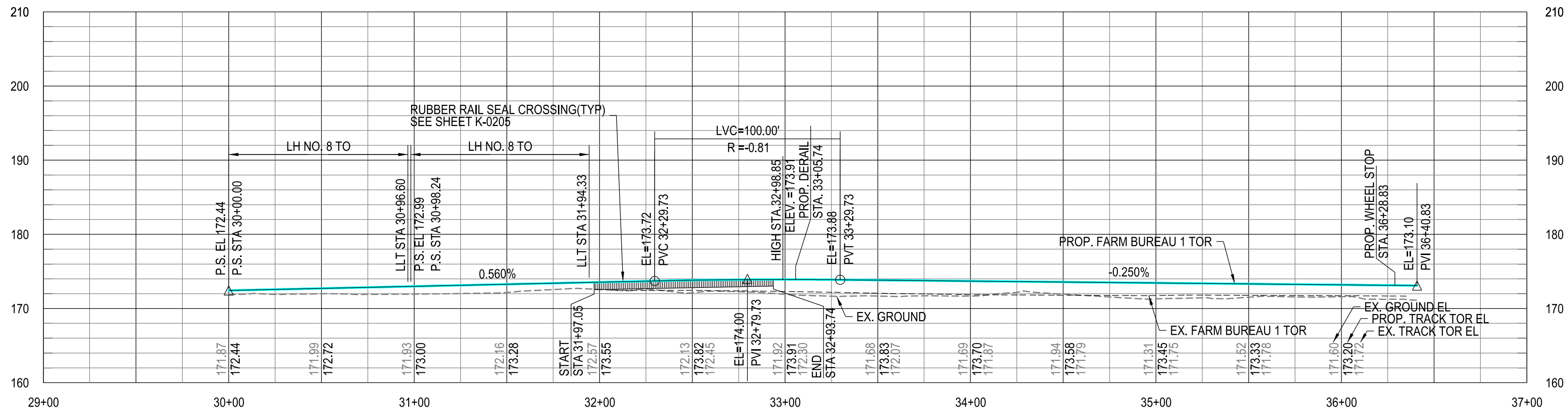
YARD PLAN
AND PROFILE
SHEET 3 OF 6

SOUTH TOWER TRACK

K-0102
19 OF 44

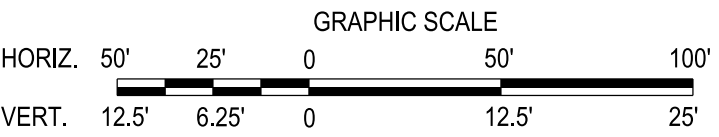


FARM BUREAU 1 PLAN



FARM BUREAU 1 PROFILE

NOTE:
1. SEE SHEET G-0401 FOR LEGEND
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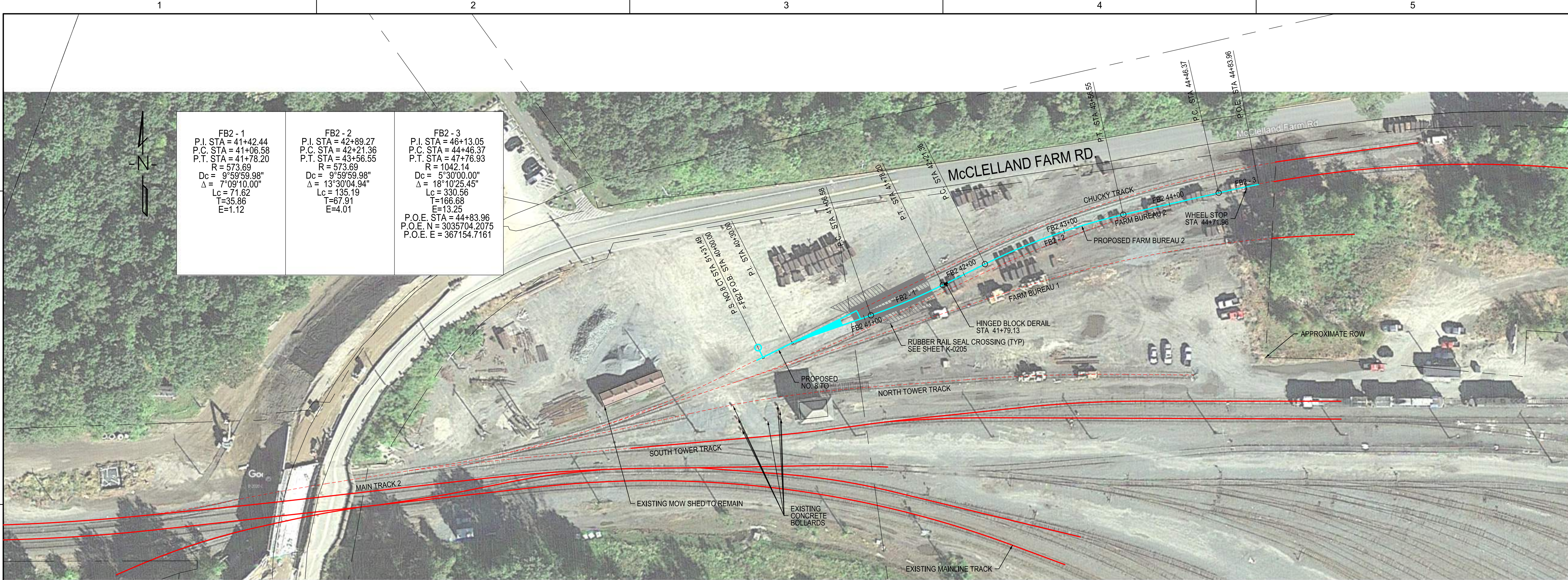
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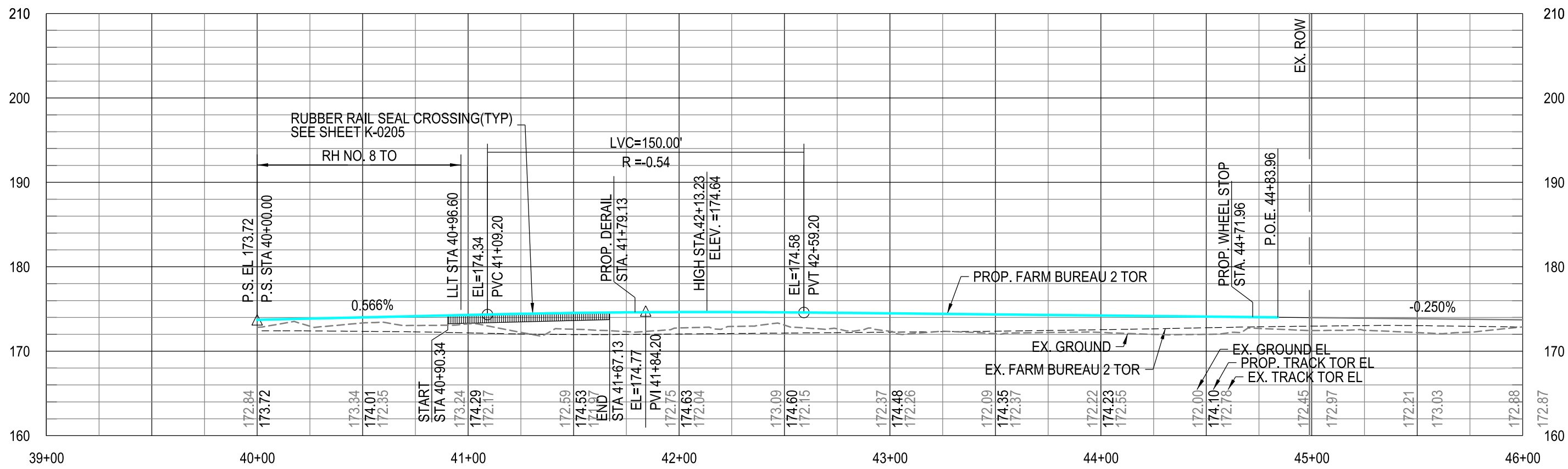
YARD PLAN
AND PROFILE
SHEET 4 OF 6

FARM BUREAU 1

K-0103
20 OF 44

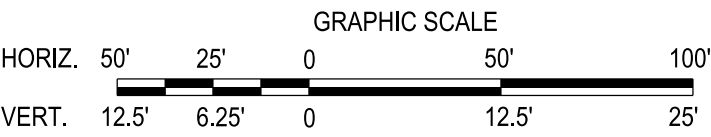


FARM BUREAU 2 PLAN



FARM BUREAU 2 PROFILE

NOTE:
1. SEE SHEET G-0401 FOR LEGEND
2. TRACK ELEVATIONS SHOWN ON PROFILES ARE BASED ON TOP OF RAIL ELEVATION



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J. Serblin
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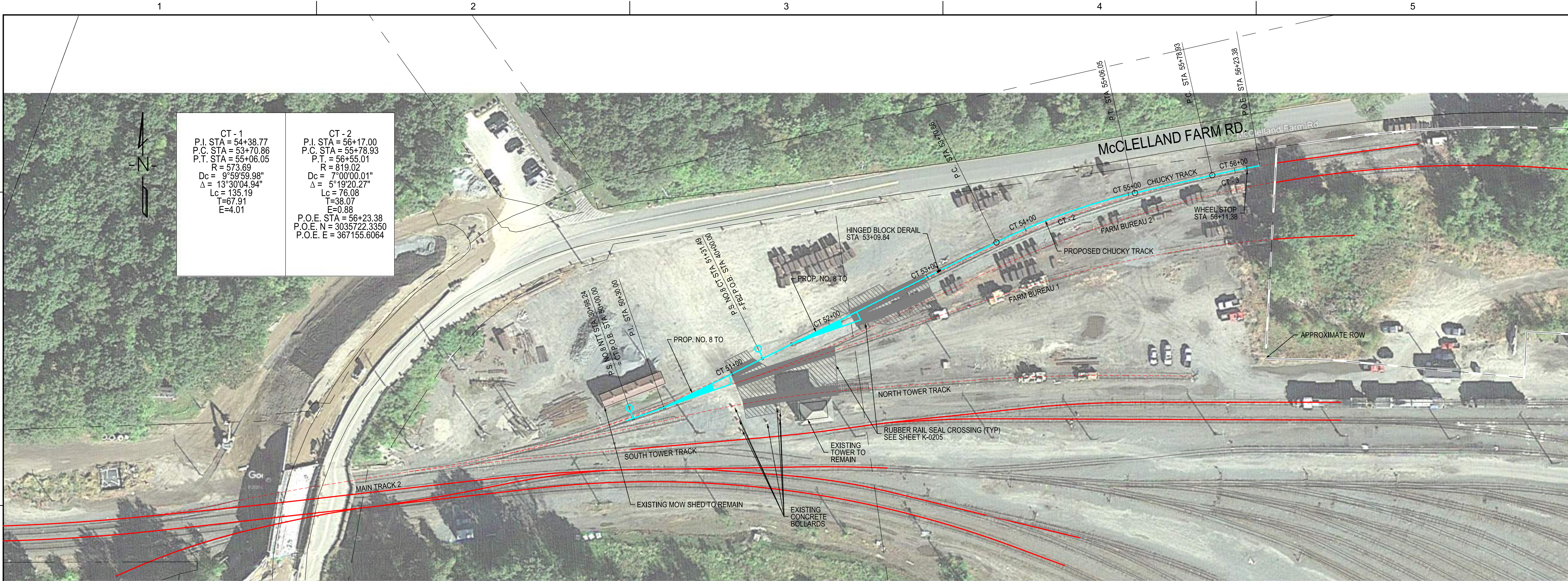
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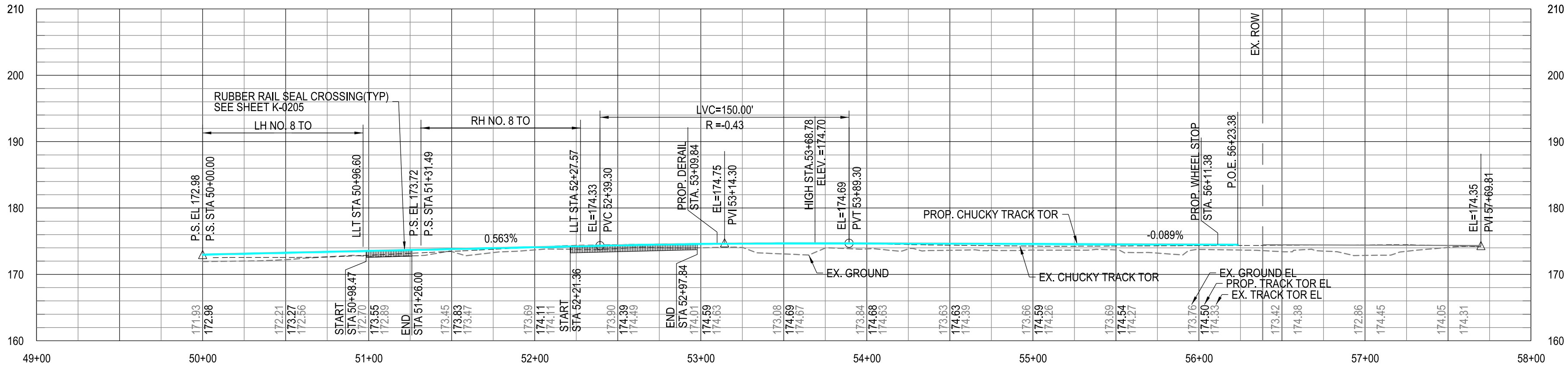
YARD PLAN
AND PROFILE
SHEET 5 OF 6

FARM BUREAU 2

K-0104
21 OF 44

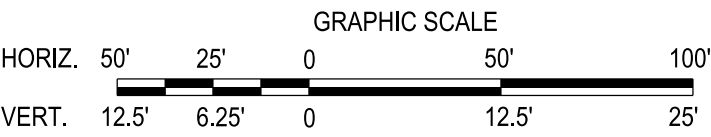


CHUCKY TRACK PLAN



CHUCKY TRACK PROFILE

NOTE:
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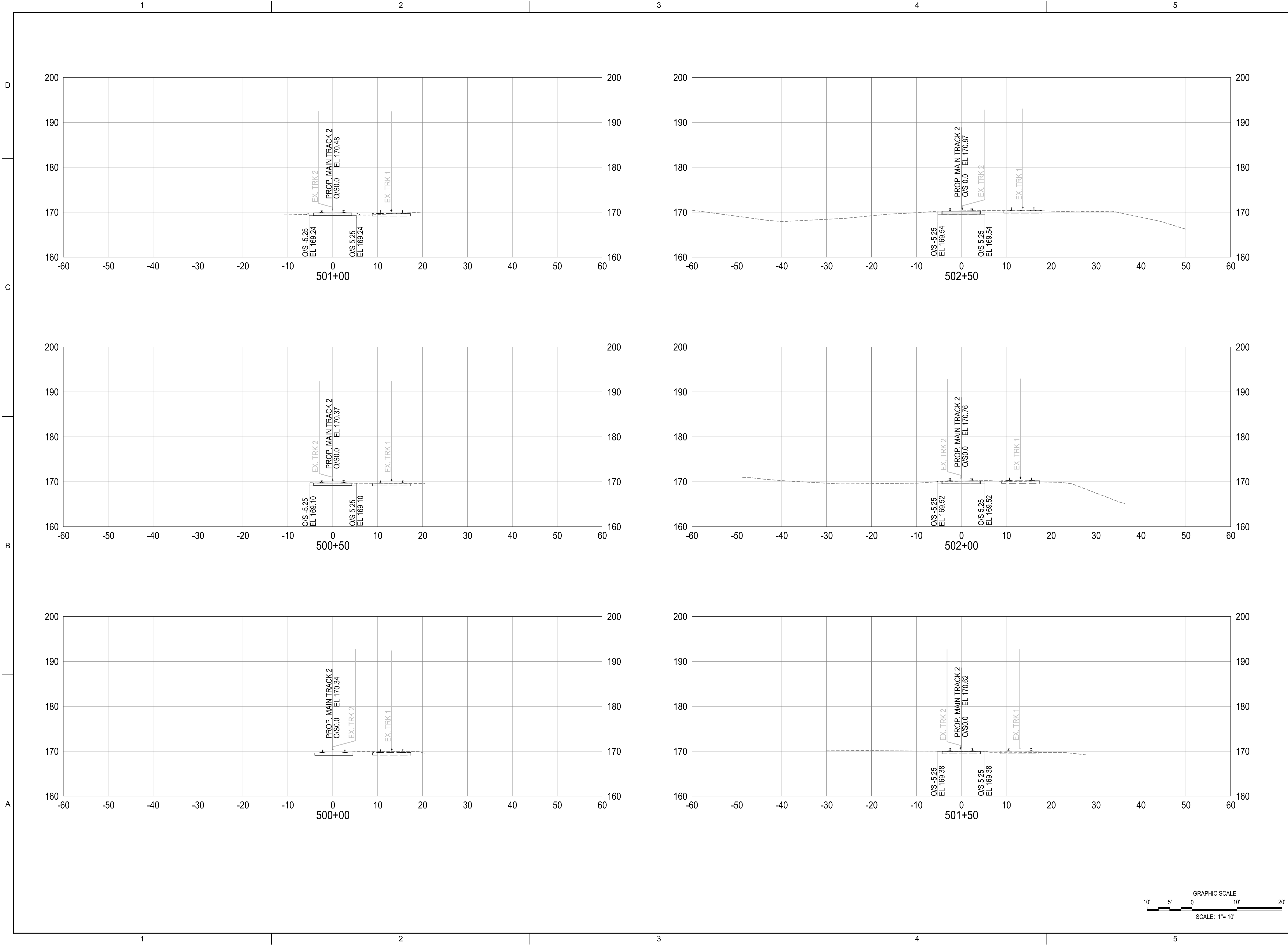
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CHUCKY TRACK

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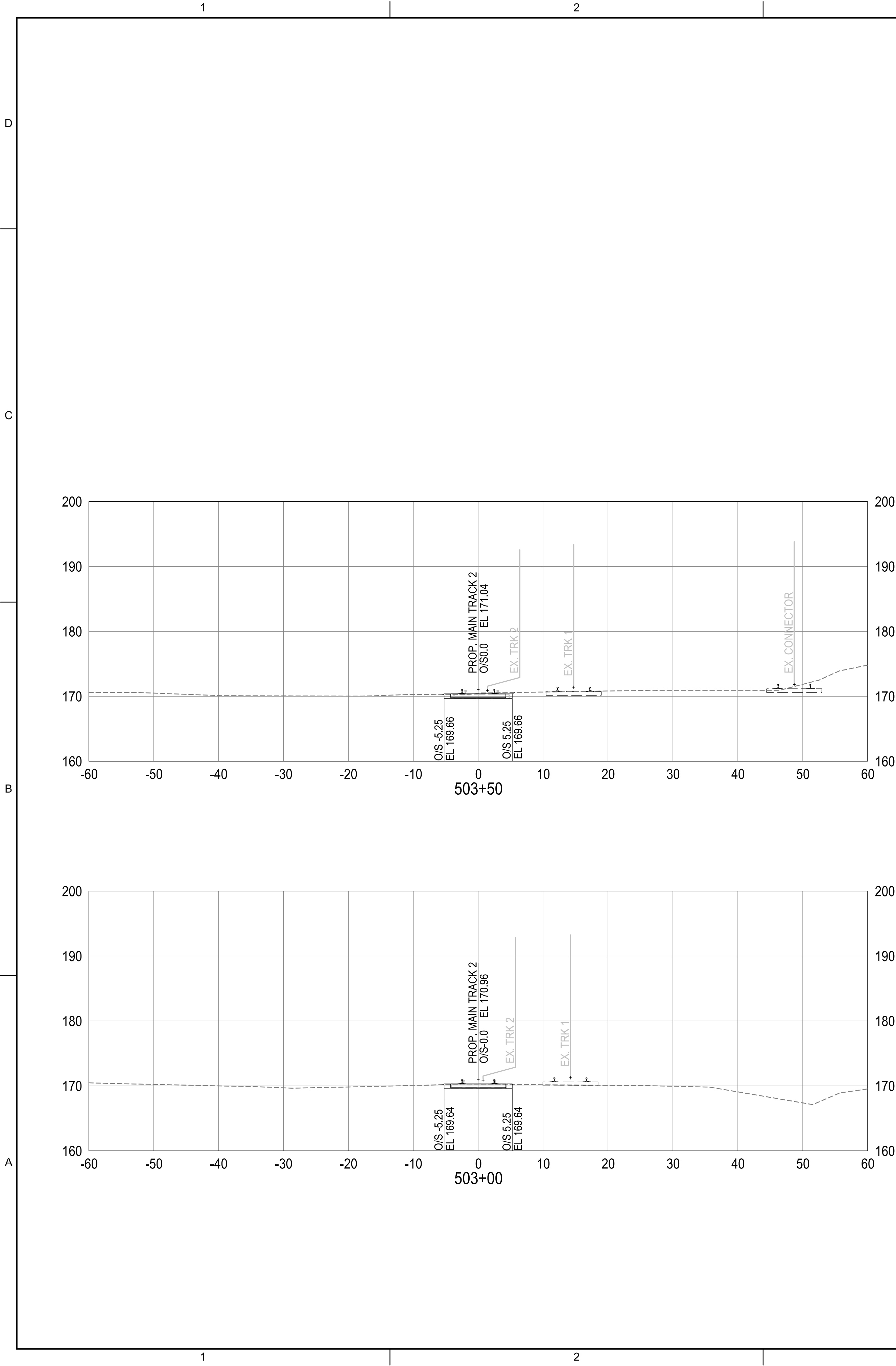
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MAIN TRACK 2

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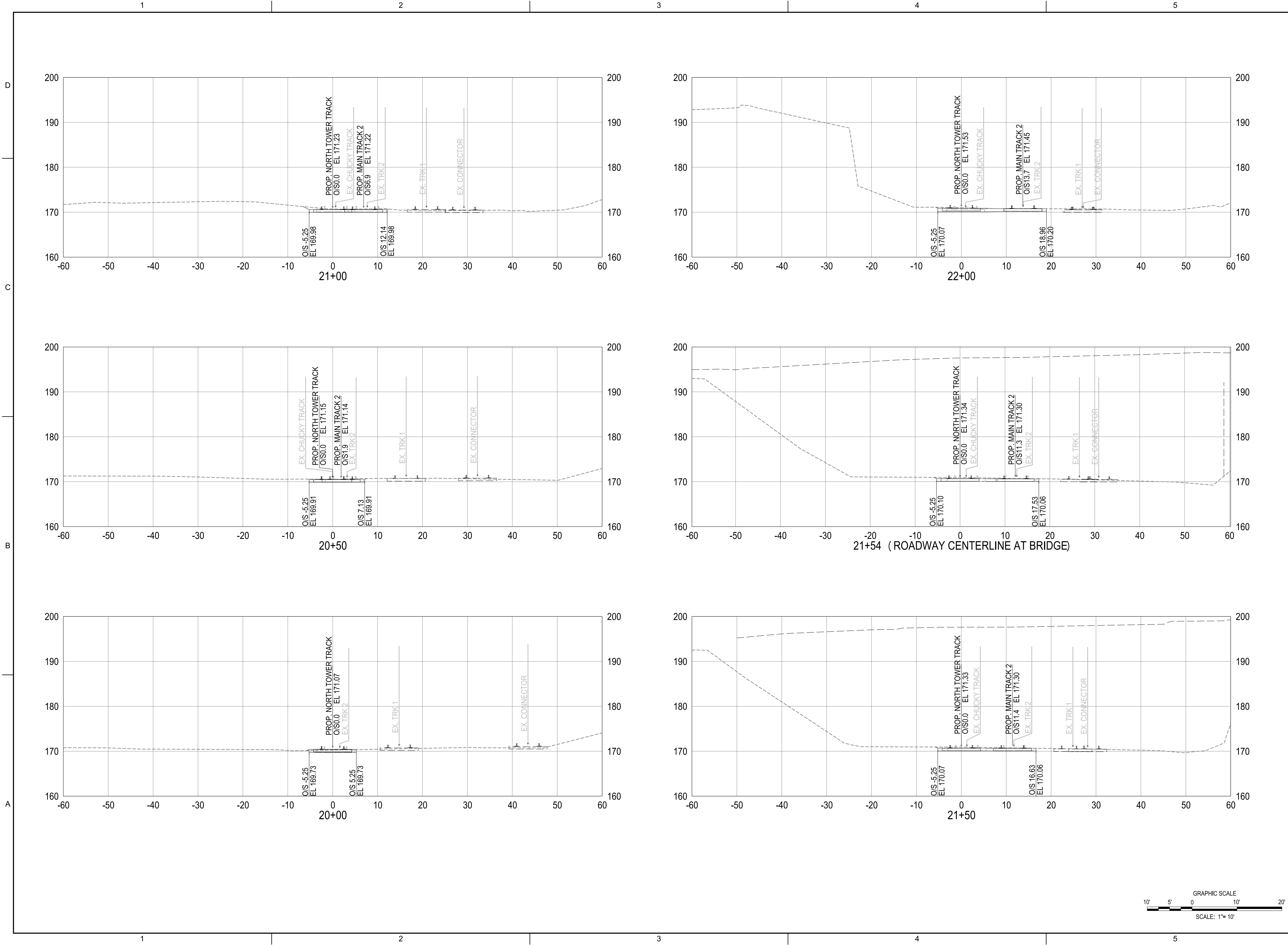
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MAIN TRACK 2

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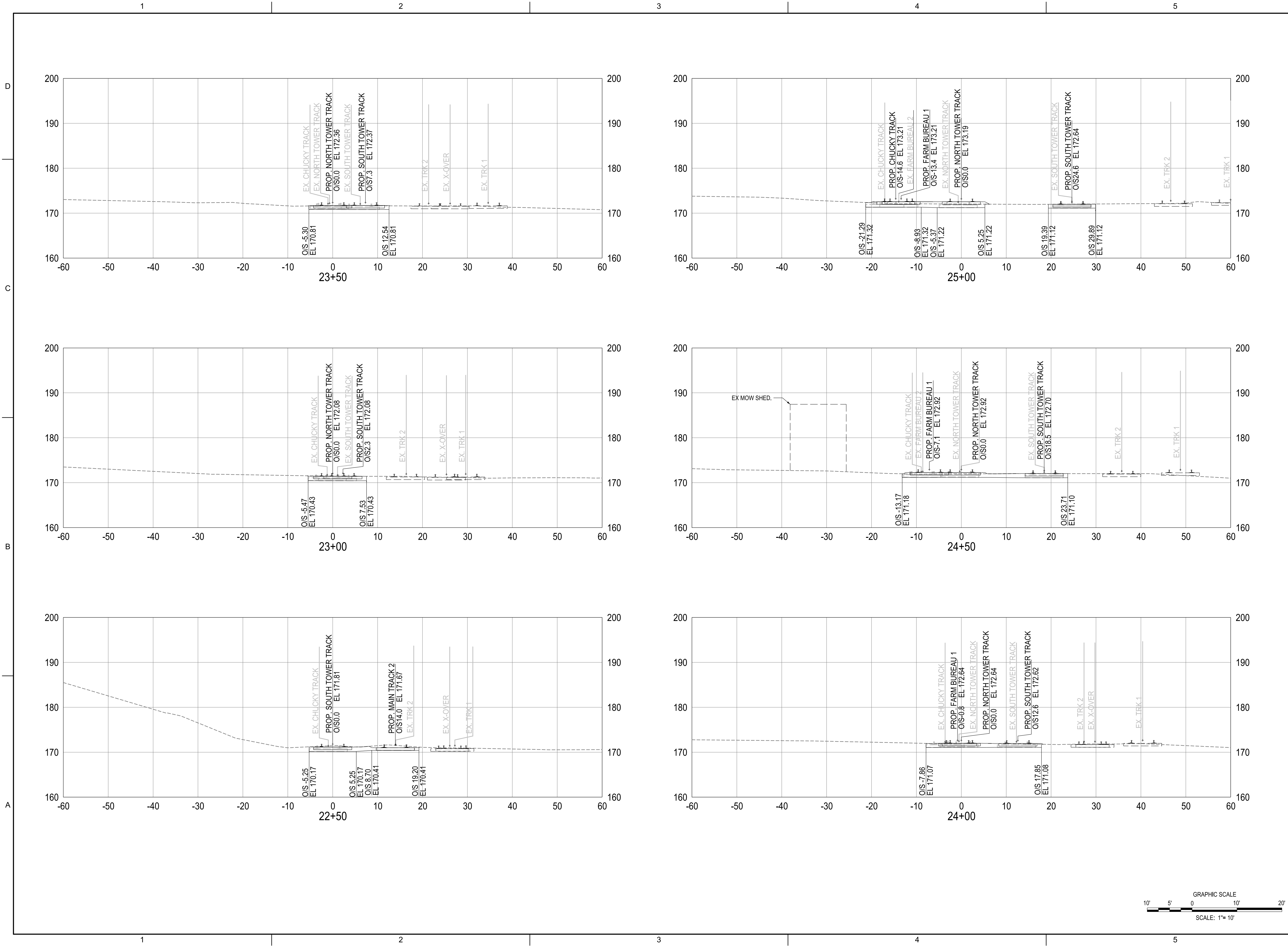
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SHEET 3 OF 8

NORTH TOWER TRACK

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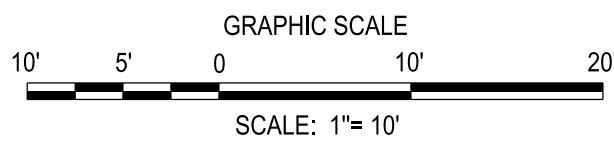
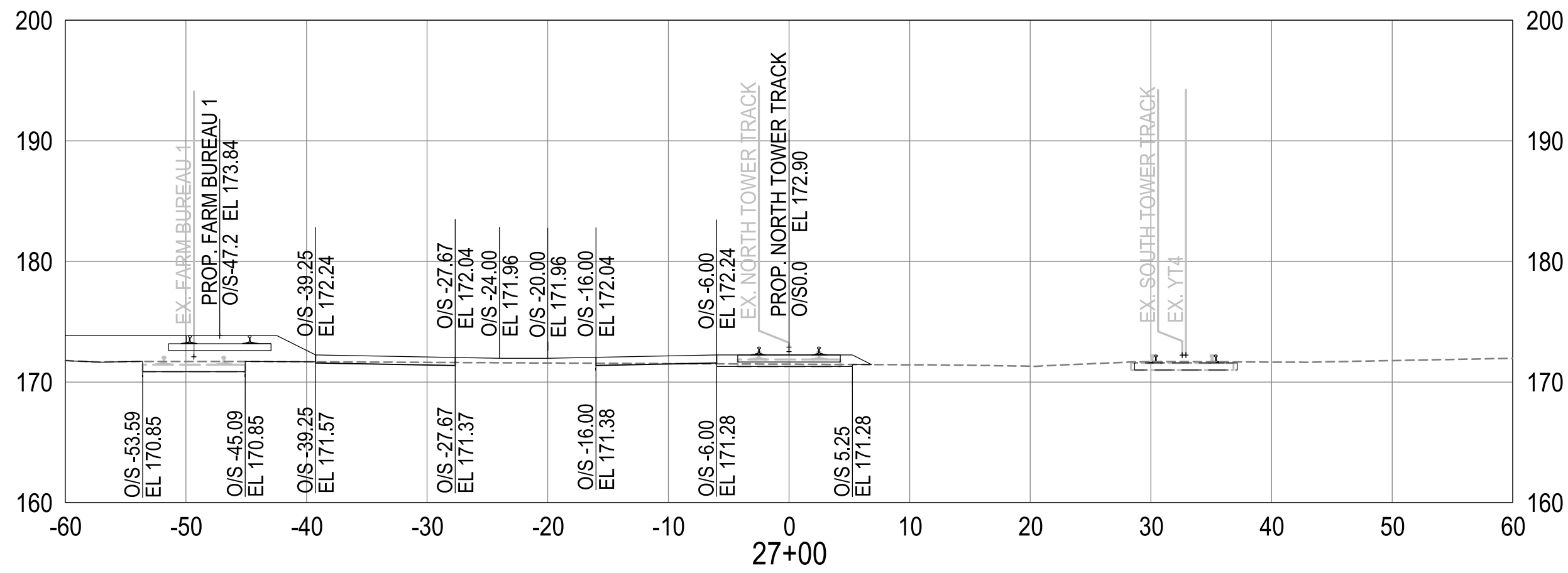
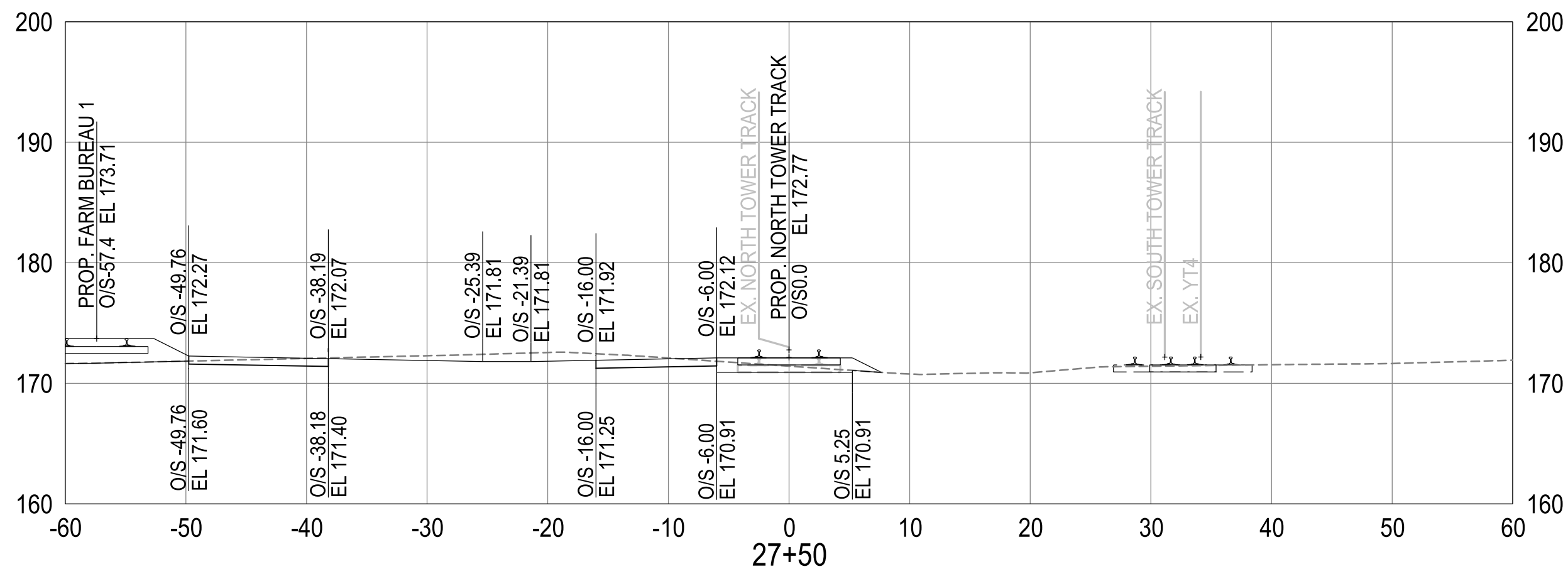
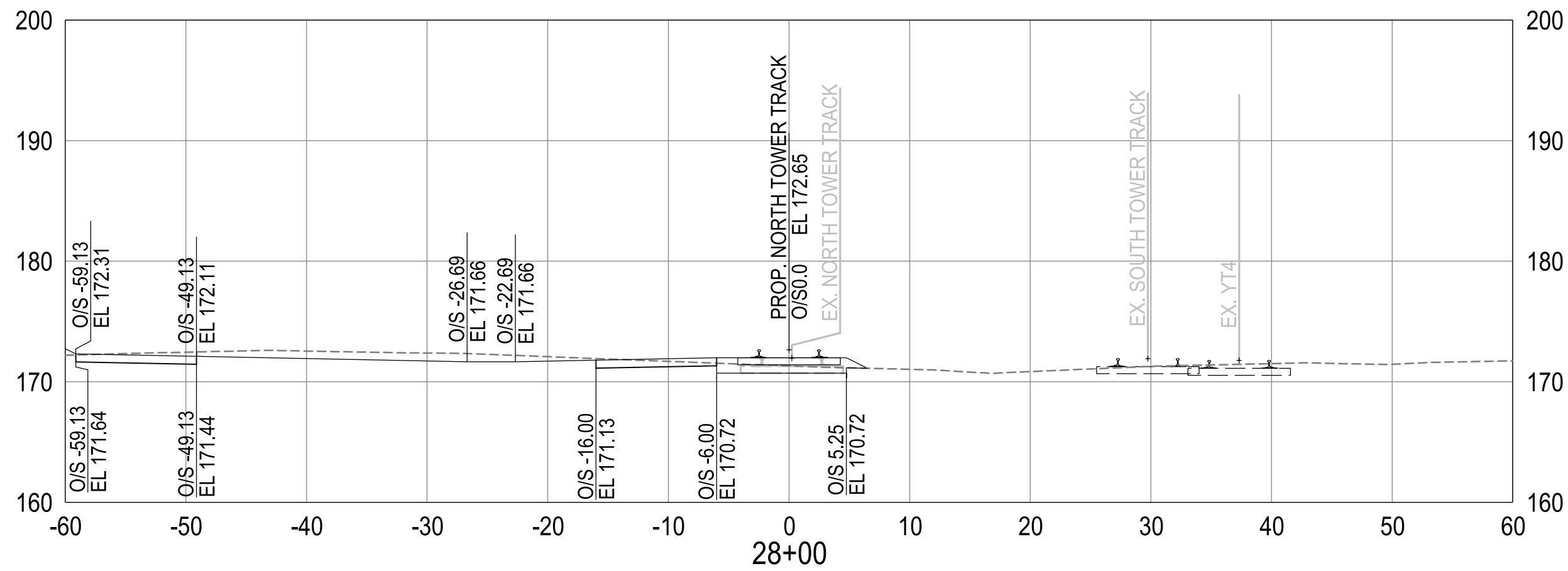
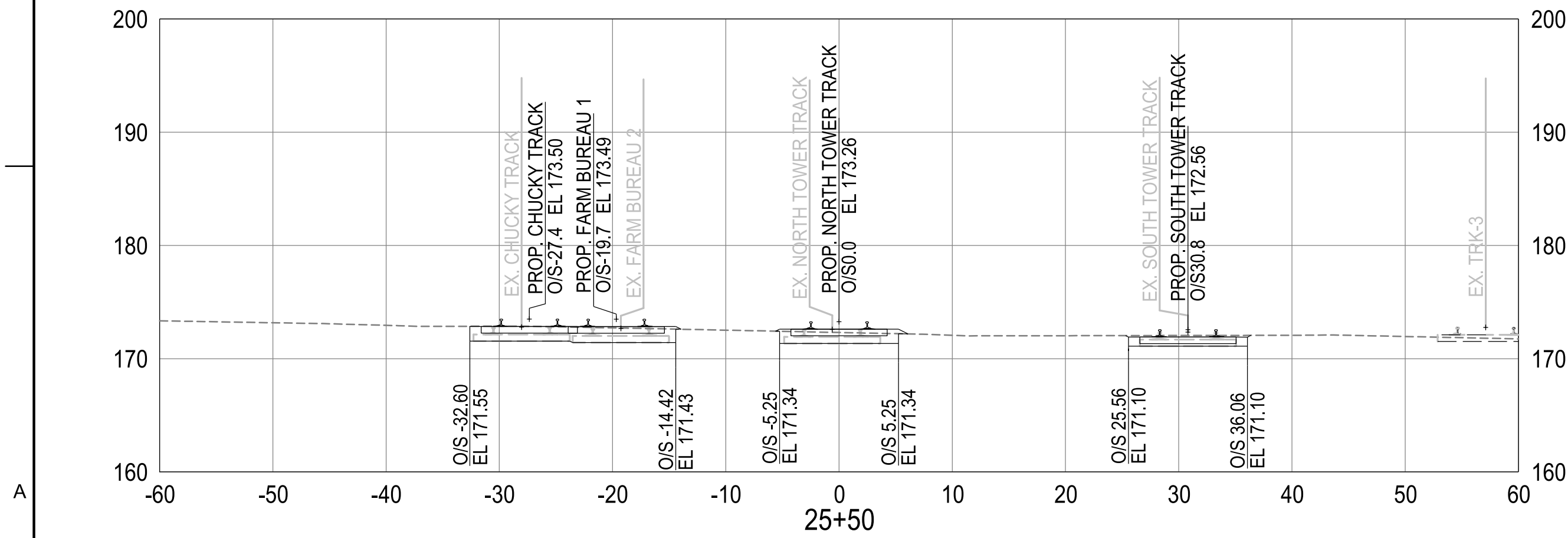
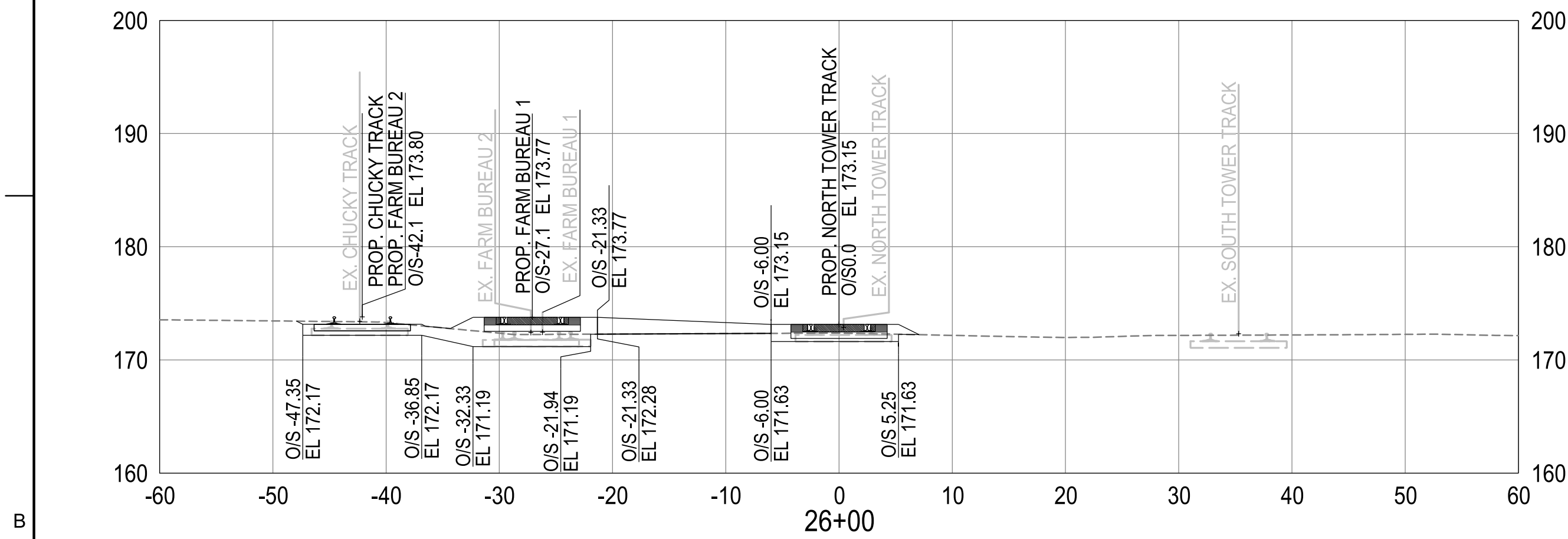
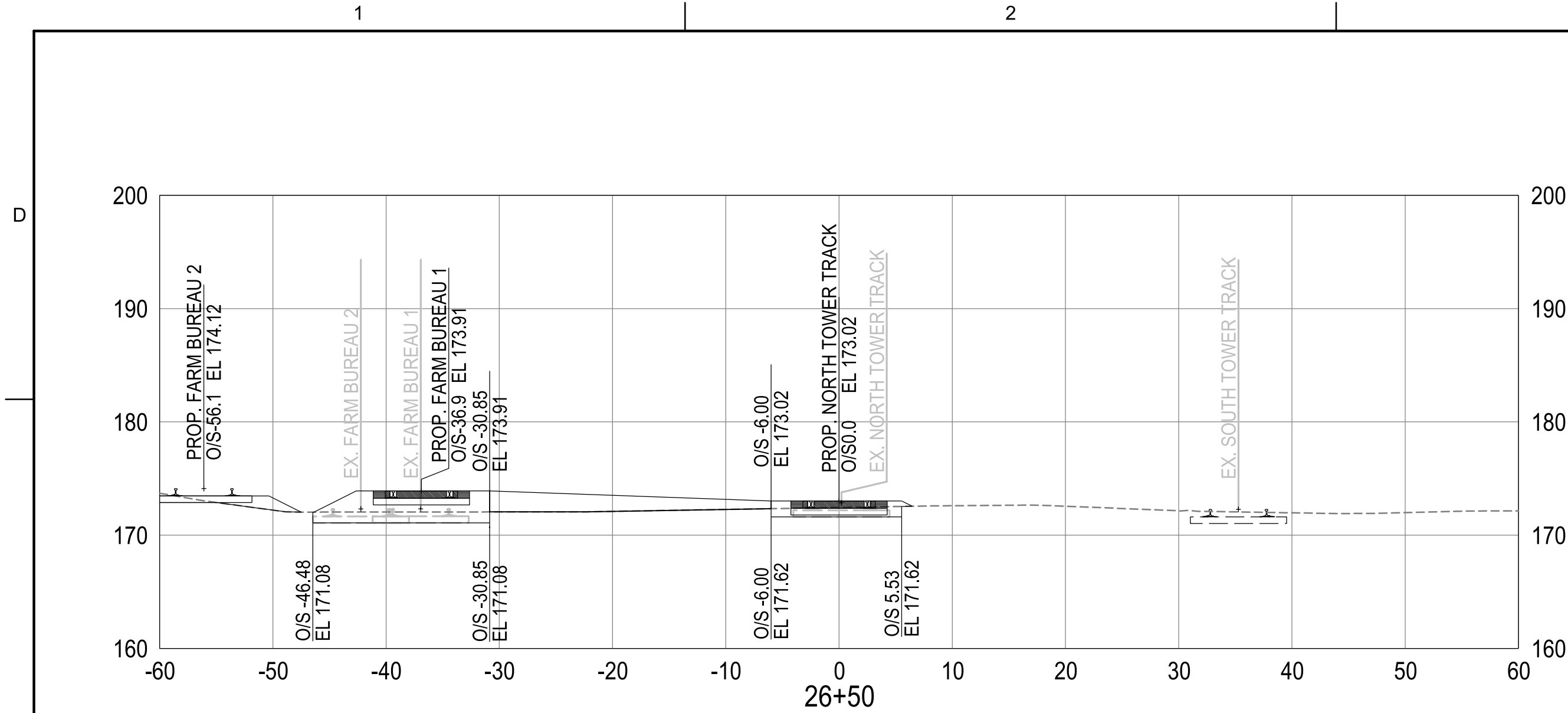
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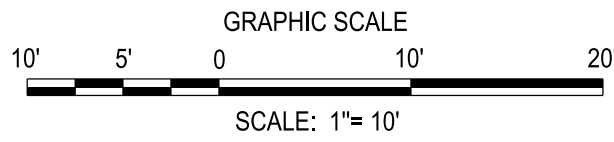
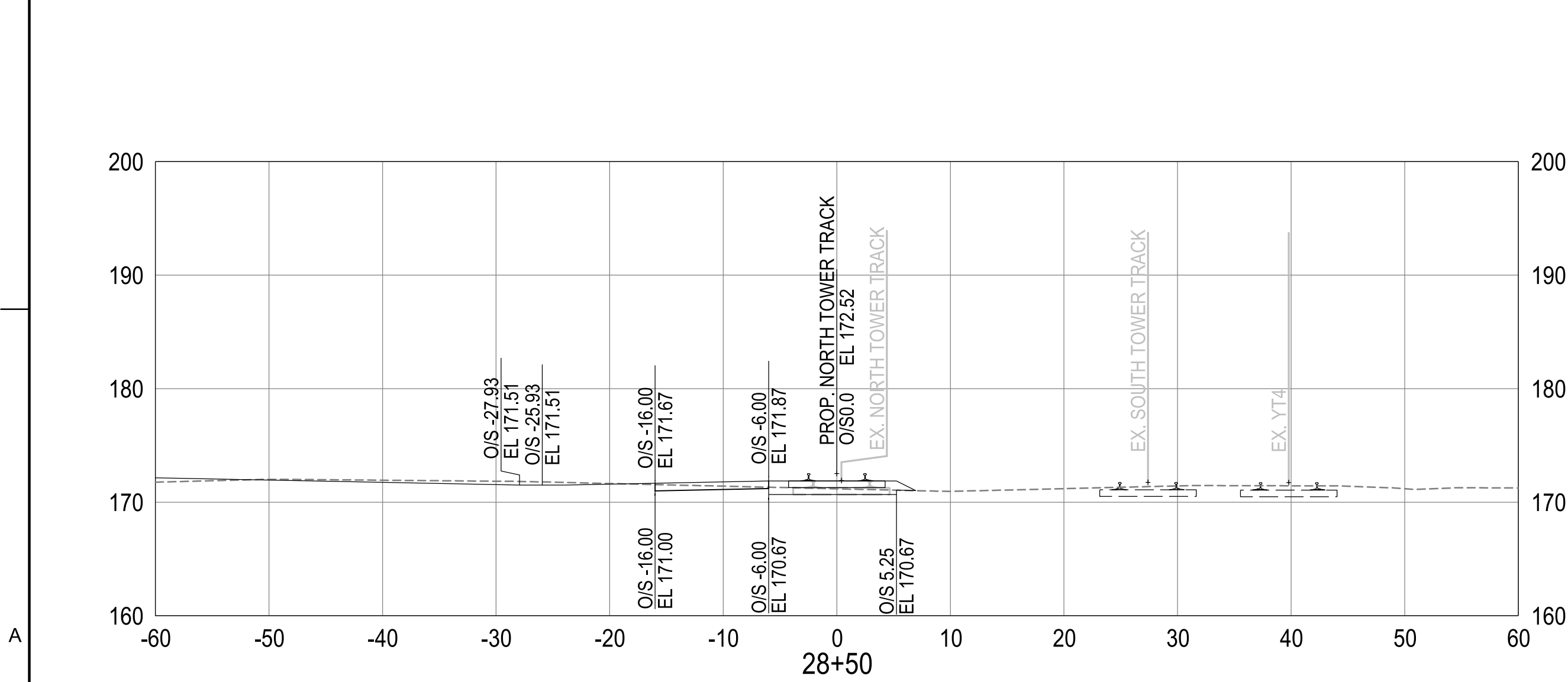
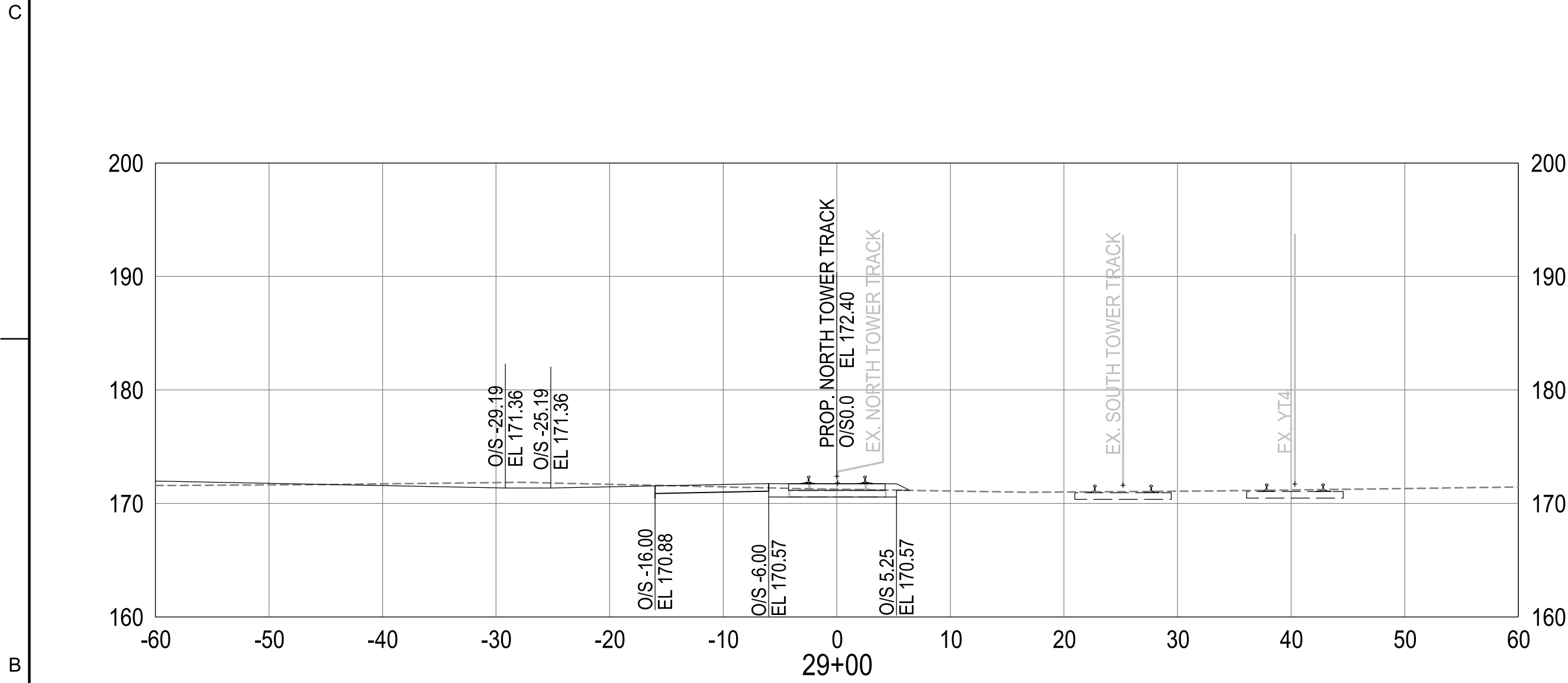
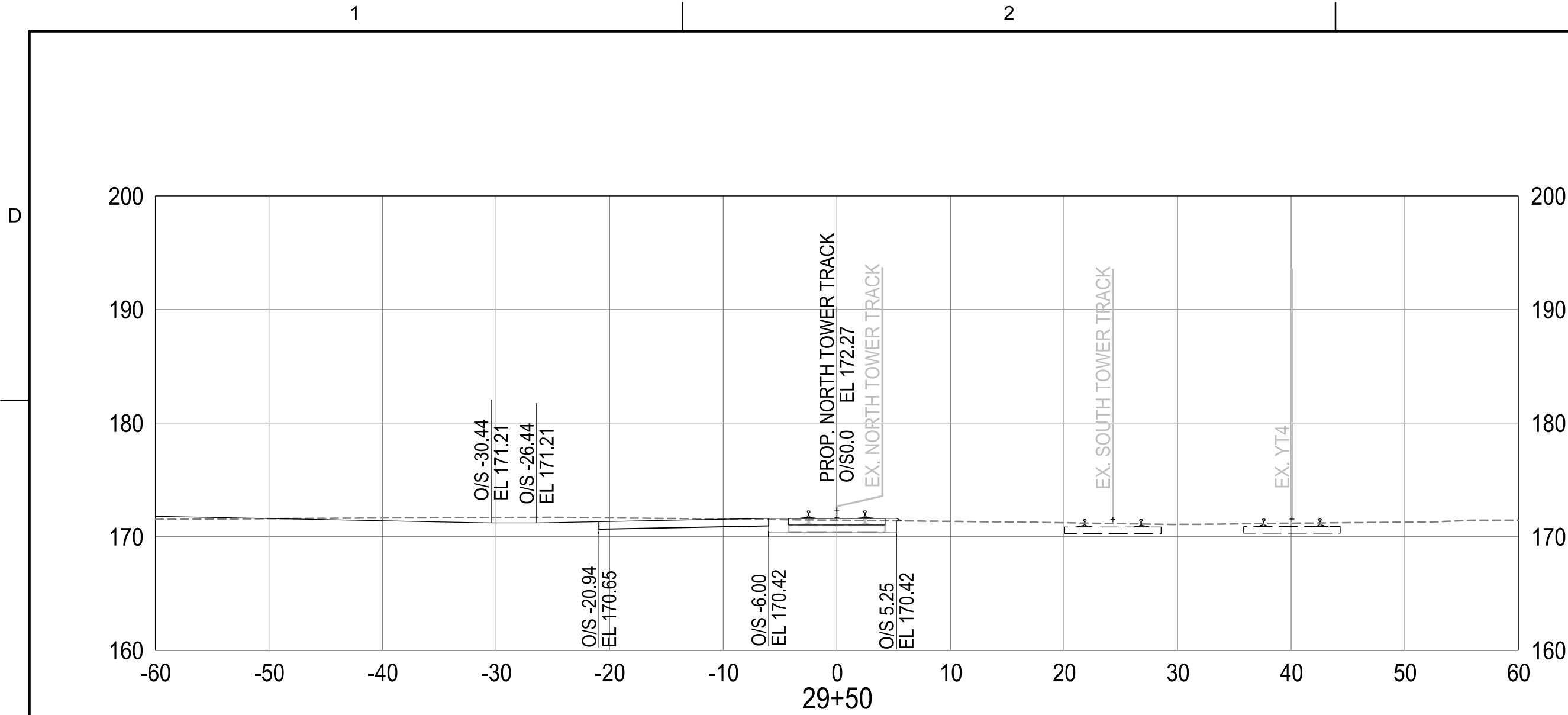
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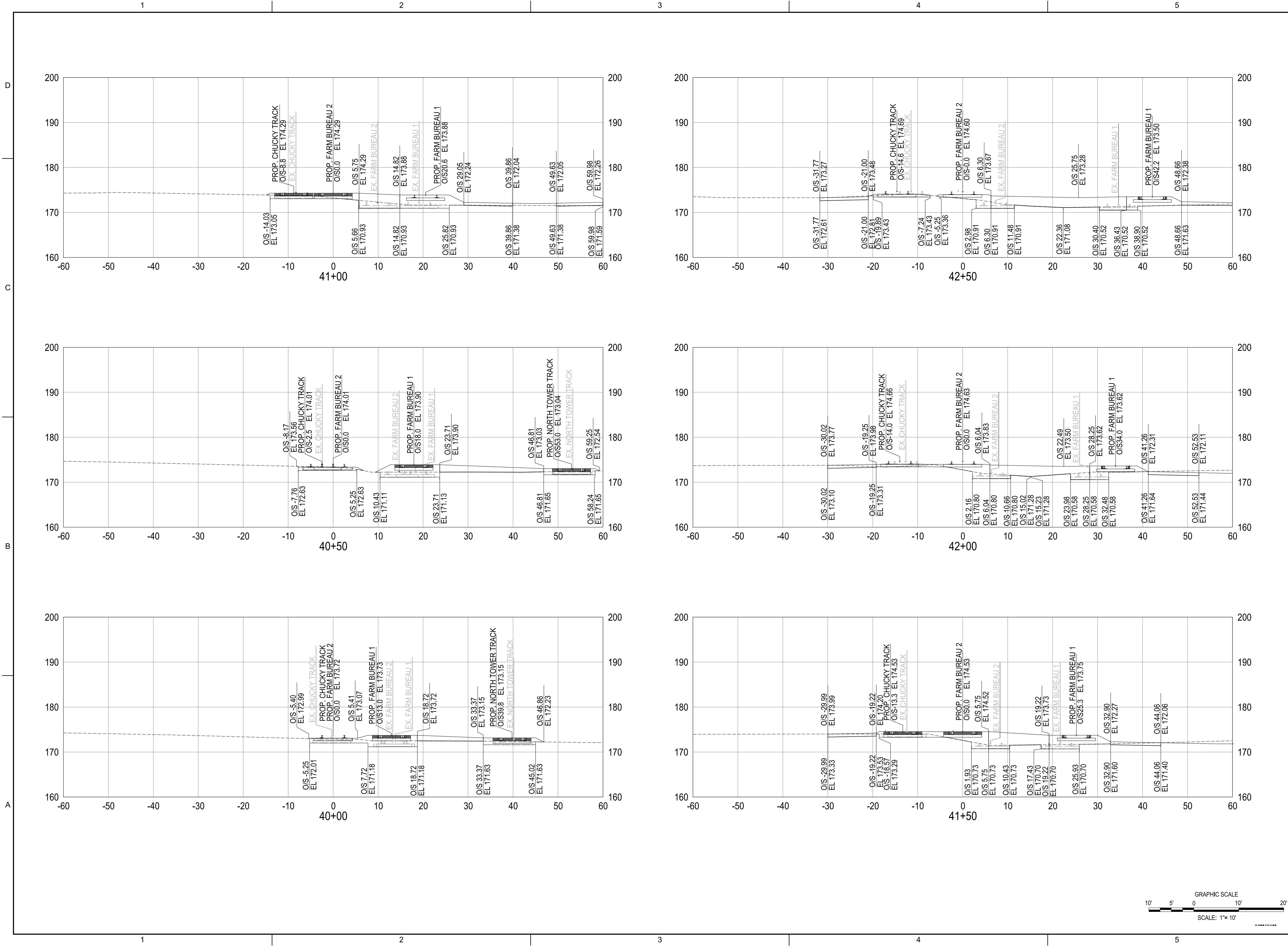
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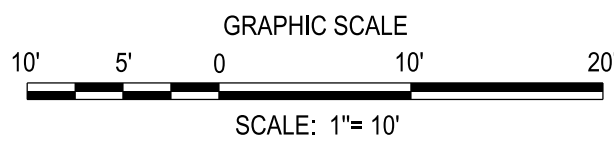
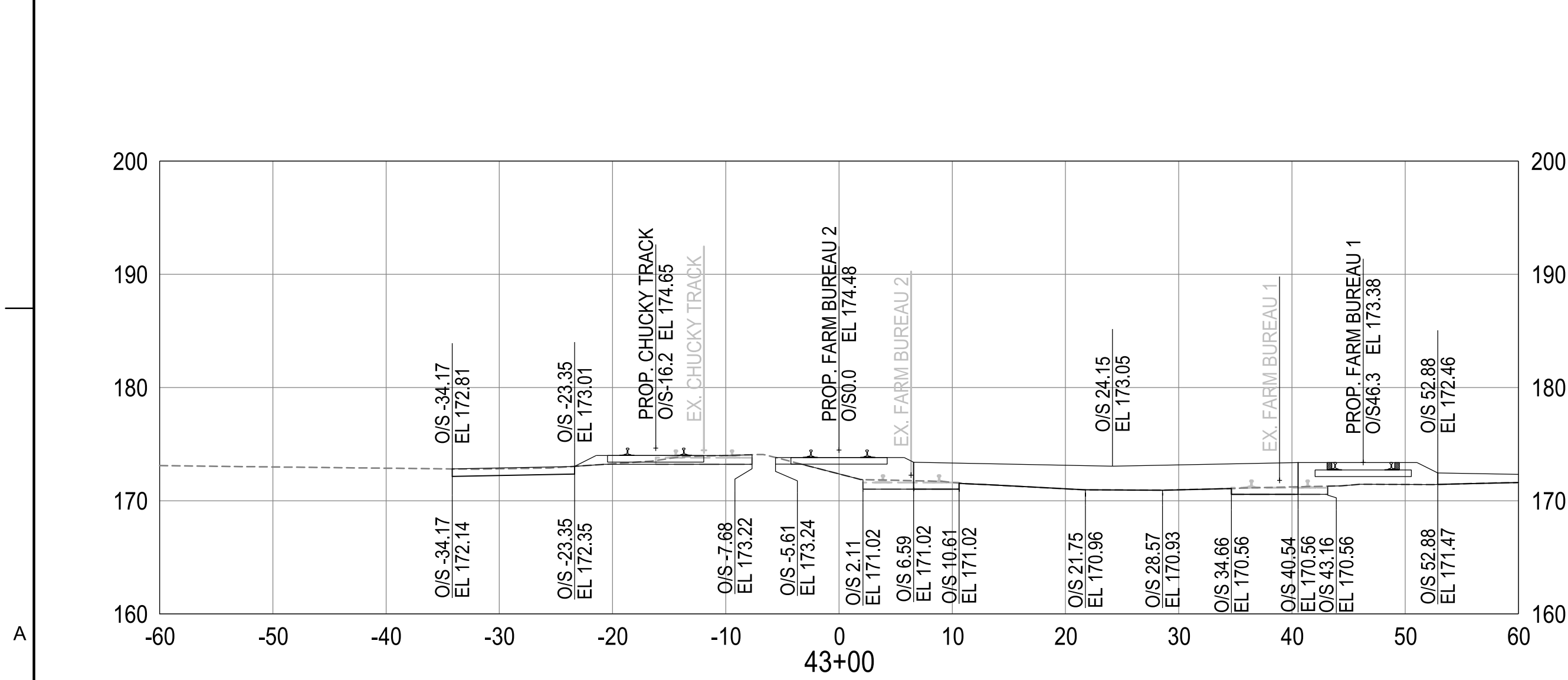
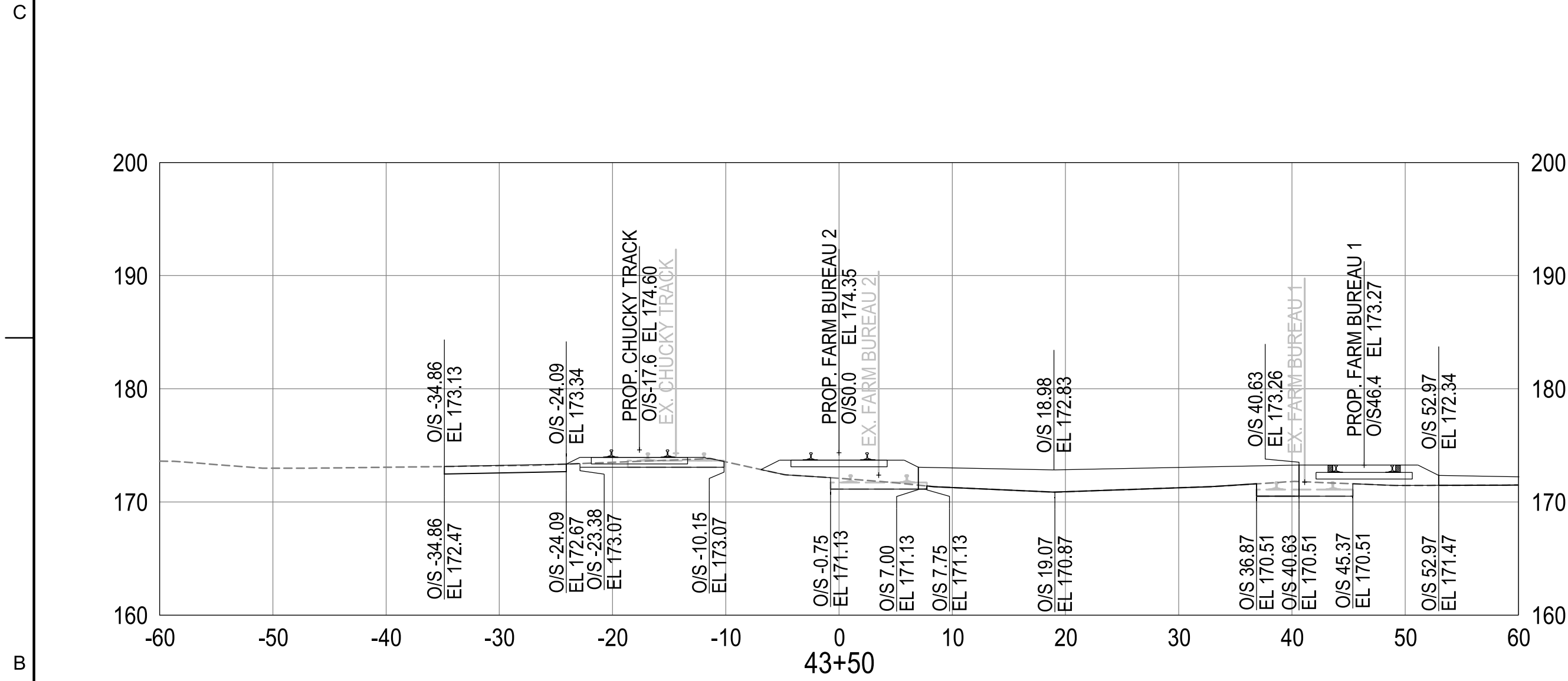
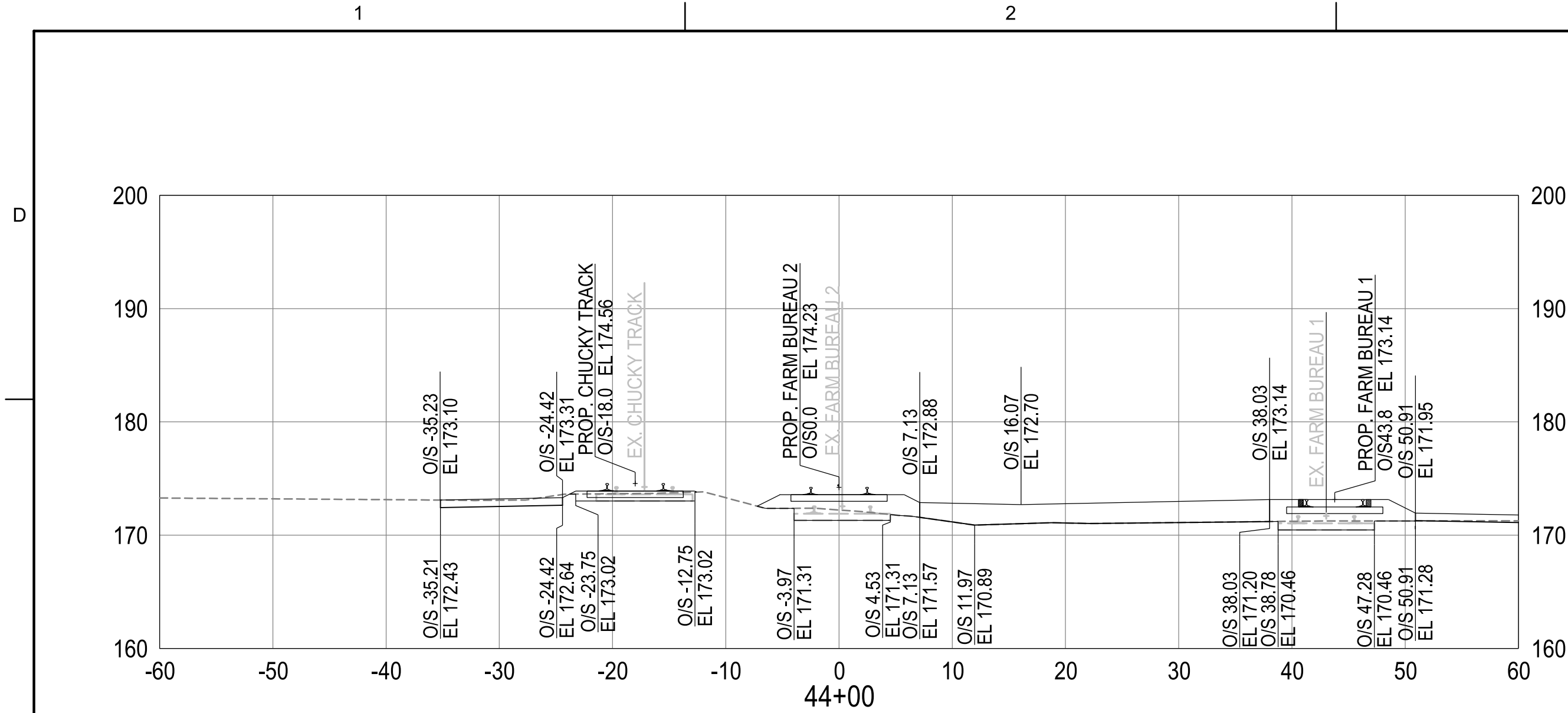
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FARM BUREAU 2

K-0112
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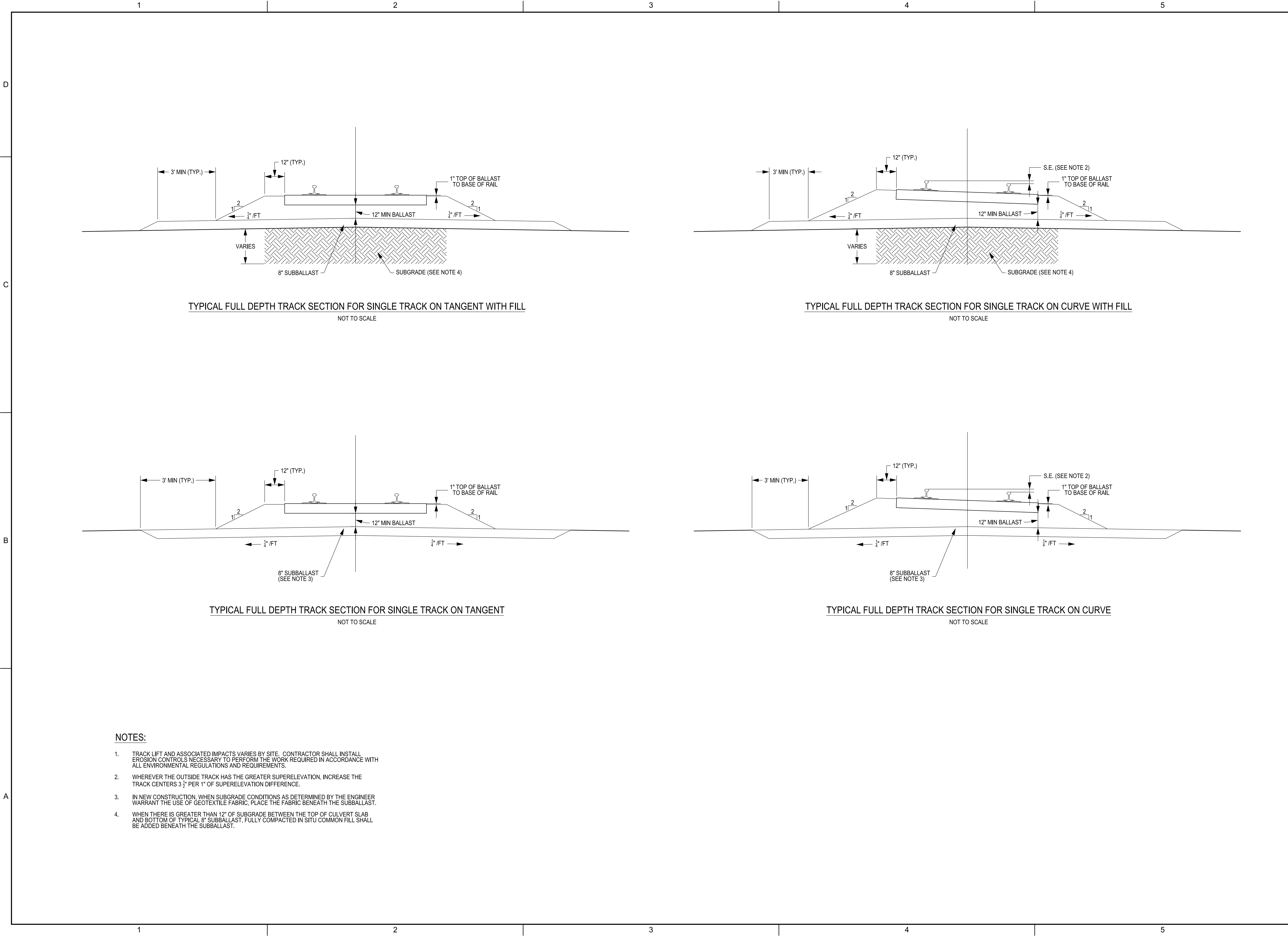
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FARM BUREAU 2

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TYPICAL FULL DEPTH
TRACK SECTIONS
FOR SINGLE TRACK

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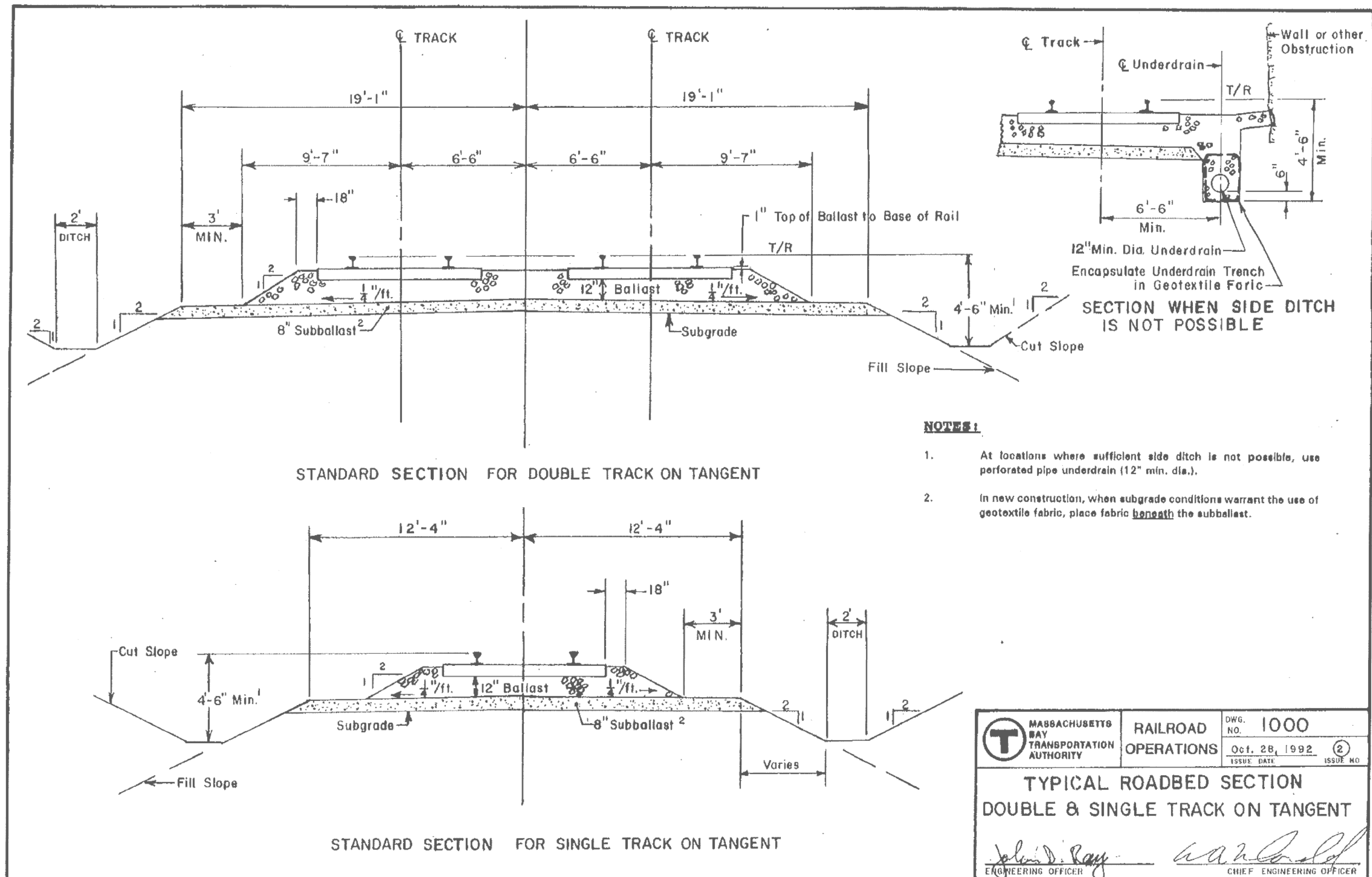
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MBTA DRAWING NO. 1000
TYPICAL ROADBED SECTION
DOUBLE & SINGLE TRACK
ON TANGENT

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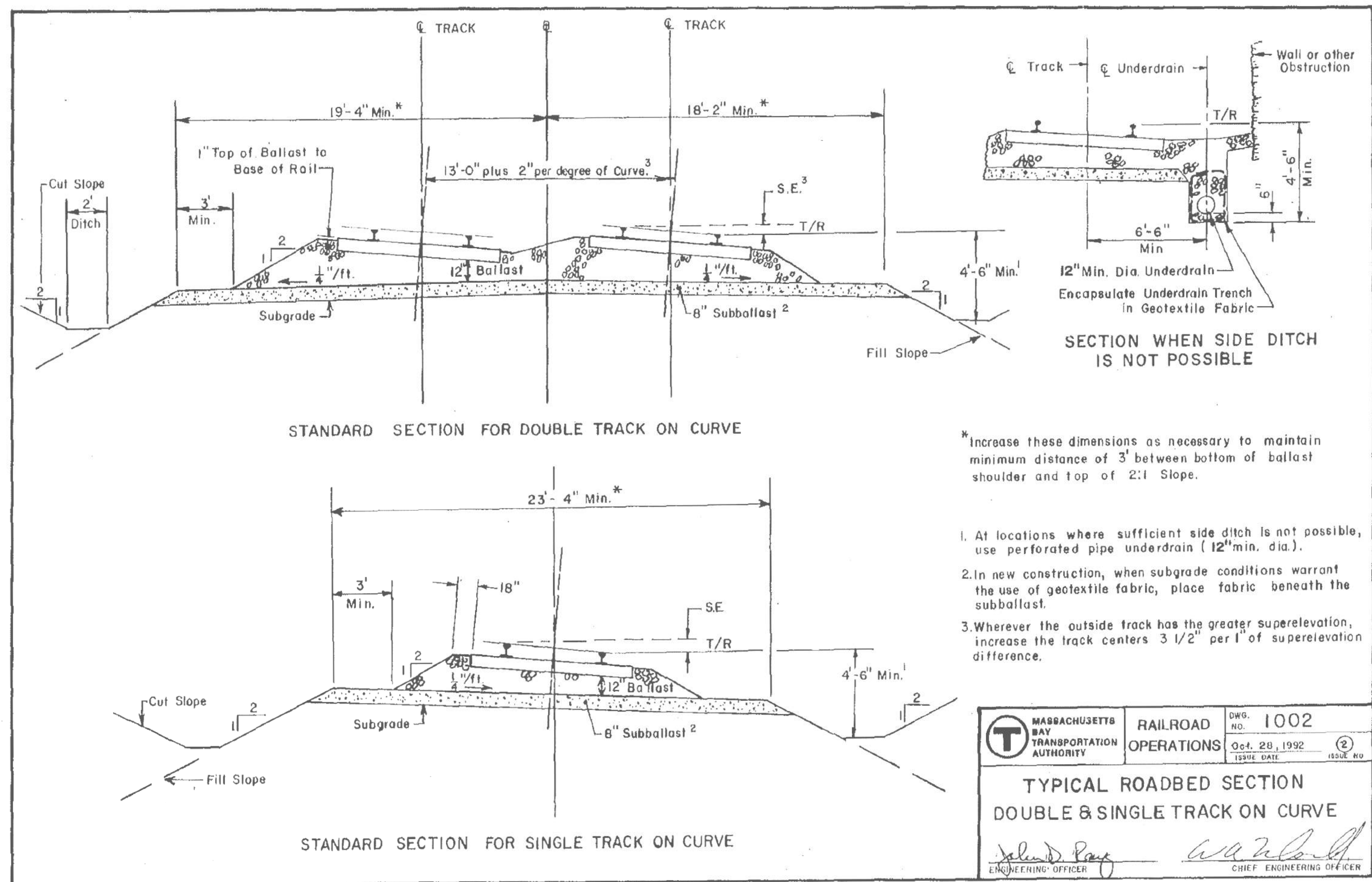
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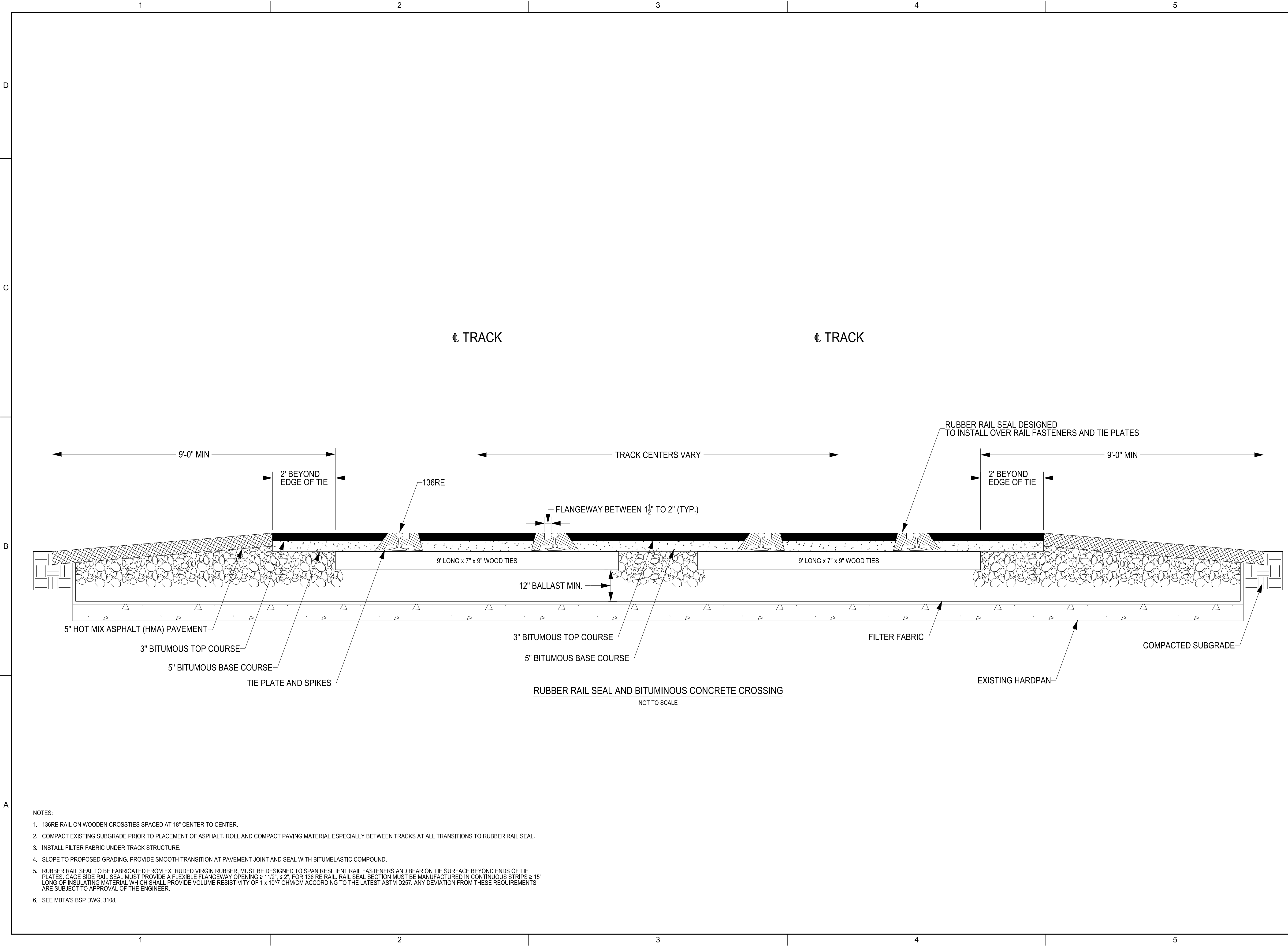
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MBTA DRAWING NO. 1002
TYPICAL ROADBED SECTION
DOUBLE & SINGLE TRACK
ON CURVE

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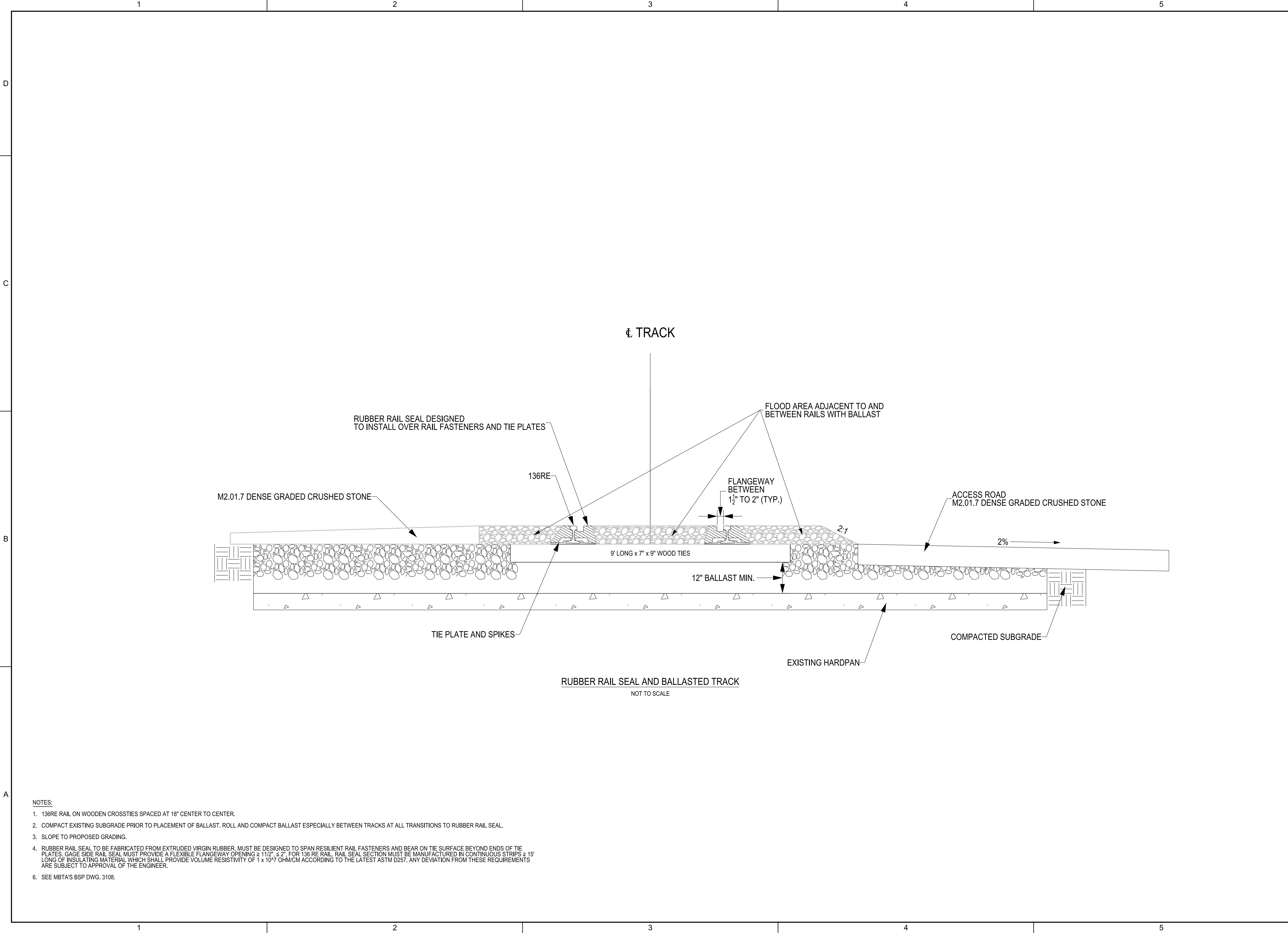
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RUBBER RAIL SEAL AND
BITUMINOUS CONCRETE
CROSSING DETAIL





Massachusetts Department of Transportation
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**RUBBER RAIL
SEAL AND
BALLASTED TRACK**

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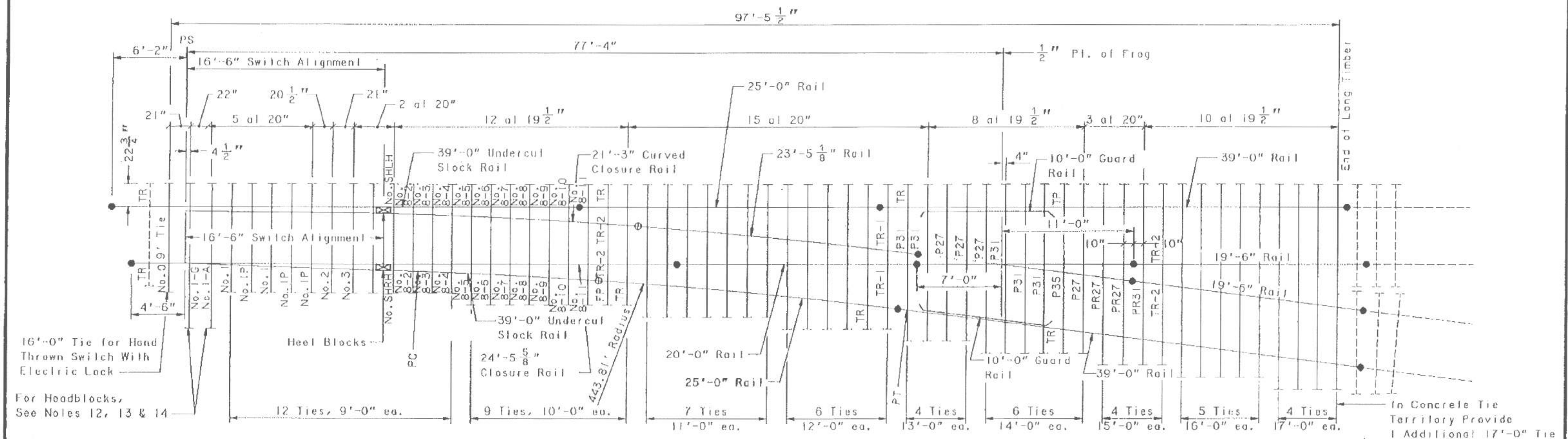
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MBTA DRAWING 2082
NO 8. WELDED TURNOUT
TIE AND RAIL LAYOUT

K-0206
37 OF 44



FROG TIE PLATES

- 8- P27 SAS (Self-Aligning Shoulder)
- 10 - P31 SAS
- 2 - P35 SAS
- 4 - PR27 SAS
- 2 - PR31 SAS

NOTES

- 1-Stock rails and switch points and all rails furnished to be fully heel treated.
- 2-Switch Points per A.R.E.A. Detail 5100 as shown on Plan 2104.
- 3-39' stock rails, to be undercut as per Plan 2104.
- 4-For switch details see Plan 2104.
- 5-Gage plate No. 1 - G as per Plan 2106.
- 6-Switch plates Nos. 0, 1, 1A, 1P and 1P as per Plan 2106.
- 7-Turnout plates, No. 2 thru No. 12, as per Plan 2340.
- 8-Vertical insulated switch rods and adjustable rocker clips, as per Plan 2107.
- 9-Heel block as per Plan 2350.
- 10-All rails to be drilled as shown on this plan, except that first hole is not to be drilled by the manufacturer. Installer to field drill first hole when necessary.
- 11-All tie plates to be resiliently fastened except guard rails.
- 12-Two 9"x10"x13' Headblocks needed with switch stand 3' high or less, 16' long with stands over 3'.
- 13-Three 9"x10"x16' Headblocks needed for hand thrown switch with electric lock.
- 14-Two 9"x10"x12' Headblocks needed for power operated switch.
- 15-See Plan 2080 for Bill of Material.
- 16-Rail lengths are computed to allow a 1/8" gap for temporary bolting the field joints and 3/16" gap for insulated joints. When rails are welded in the field, they must be cut to provide gaps recommended by the weld kit manufacturer.
- 17-Transition Plates (TR) 1:80 Cont, as per Plan 2348.

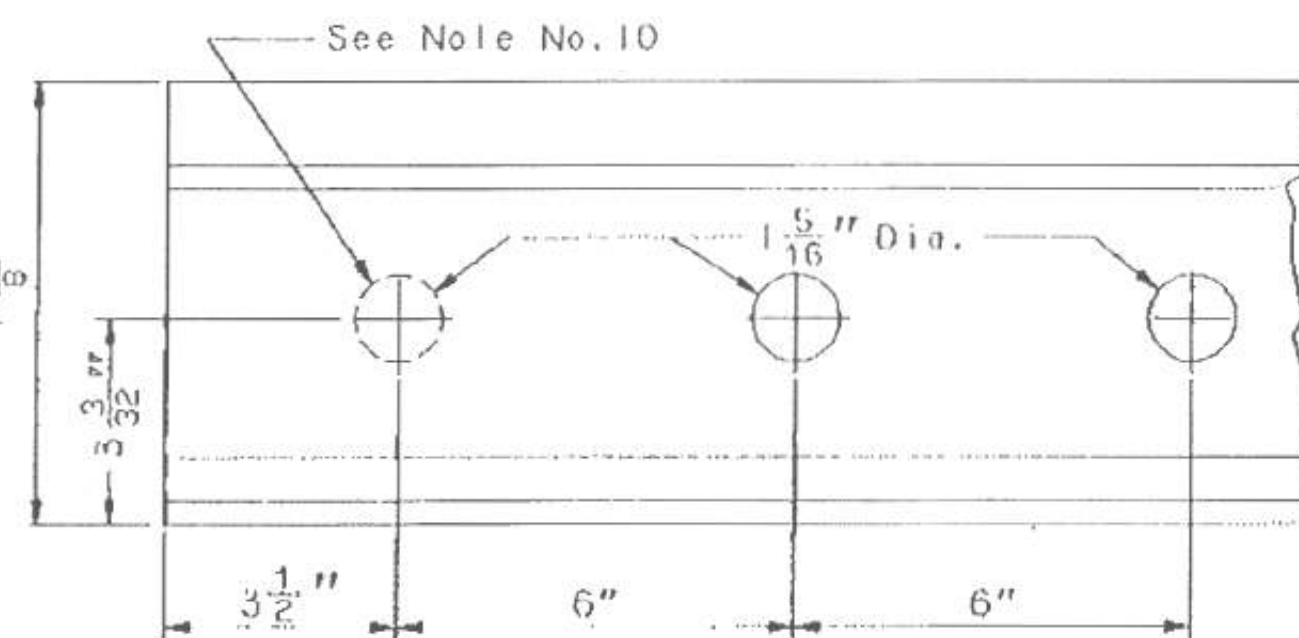
LEGEND

- Indicates rails furnished by the manufacturer.
- Indicates rails furnished by the installer.
- Indicates joints of heel of switch-not to be welded
- Indicates insulated joints with 3/16" opening.
- Indicates joints to be field welded.

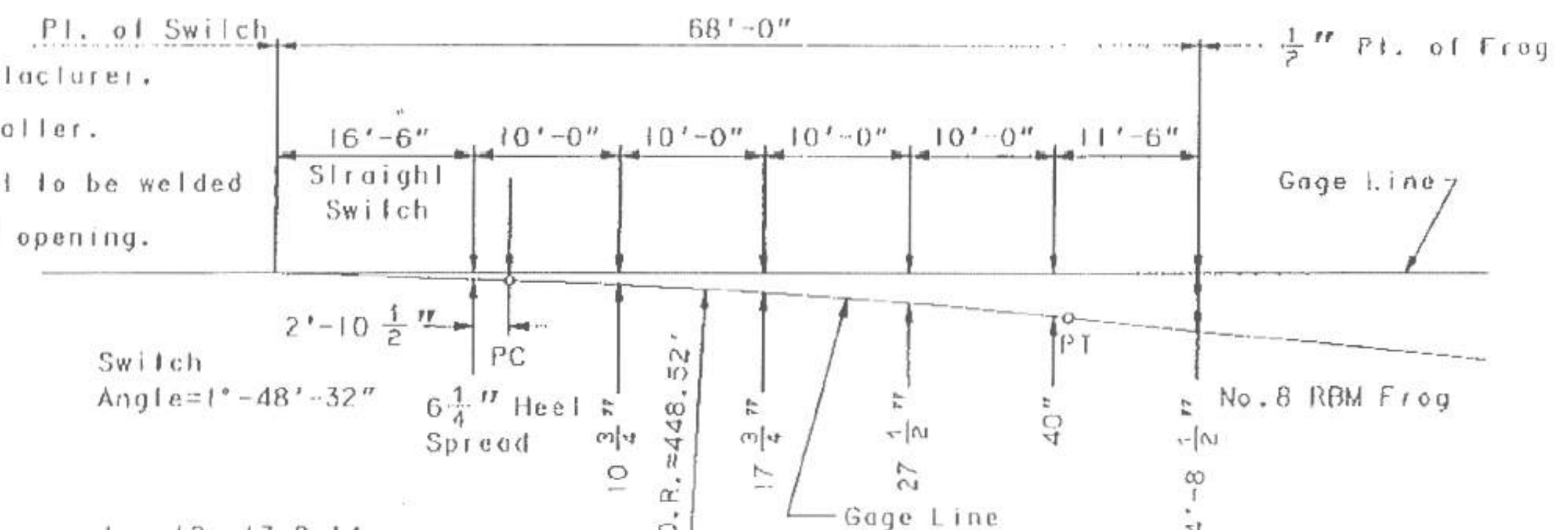
LONG TIMBERS REQUIRED

Quantity	Length
13*	9'-0"
9	10'-0"
7	11'-0"
6	12'-0"
4	13'-0"
6	14'-0"
4	15'-0"
5	16'-0"
4**	17'-0"
58	Total

- *Headblocks not shown in table, see notes 12, 13 & 14.
- * 12 with electric lock
- ** 5, 17'-0" ties in concrete tie territory



RAIL END DRILLING



OFFSETS FOR NO. 8 R.H. TURNOUT

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY	RAILROAD OPERATIONS	DWG. NO.	2082
		ISSUE DATE	JAN. 5, 1996
NO. 8 WELDED TURNOUT TIE & RAIL LAYOUT		ISSUE NO.	(3)

John D. Ray
SECTION CHIEF



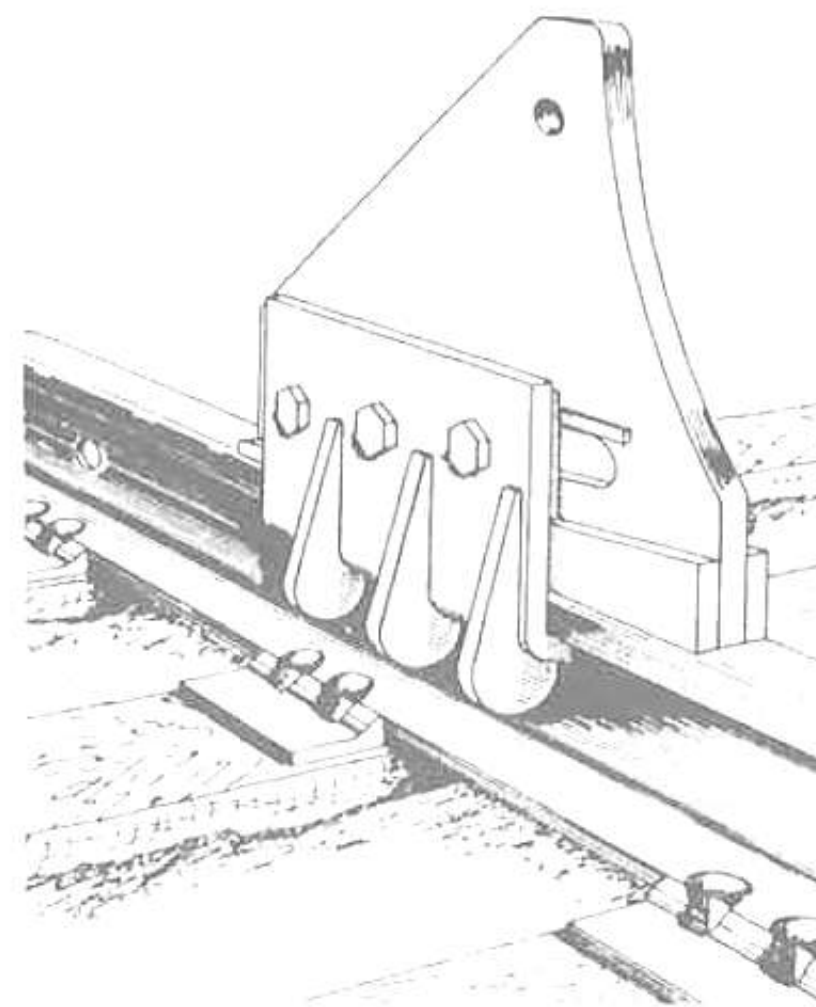
38 OF 44



19 - 3

Model 430F Car Stops

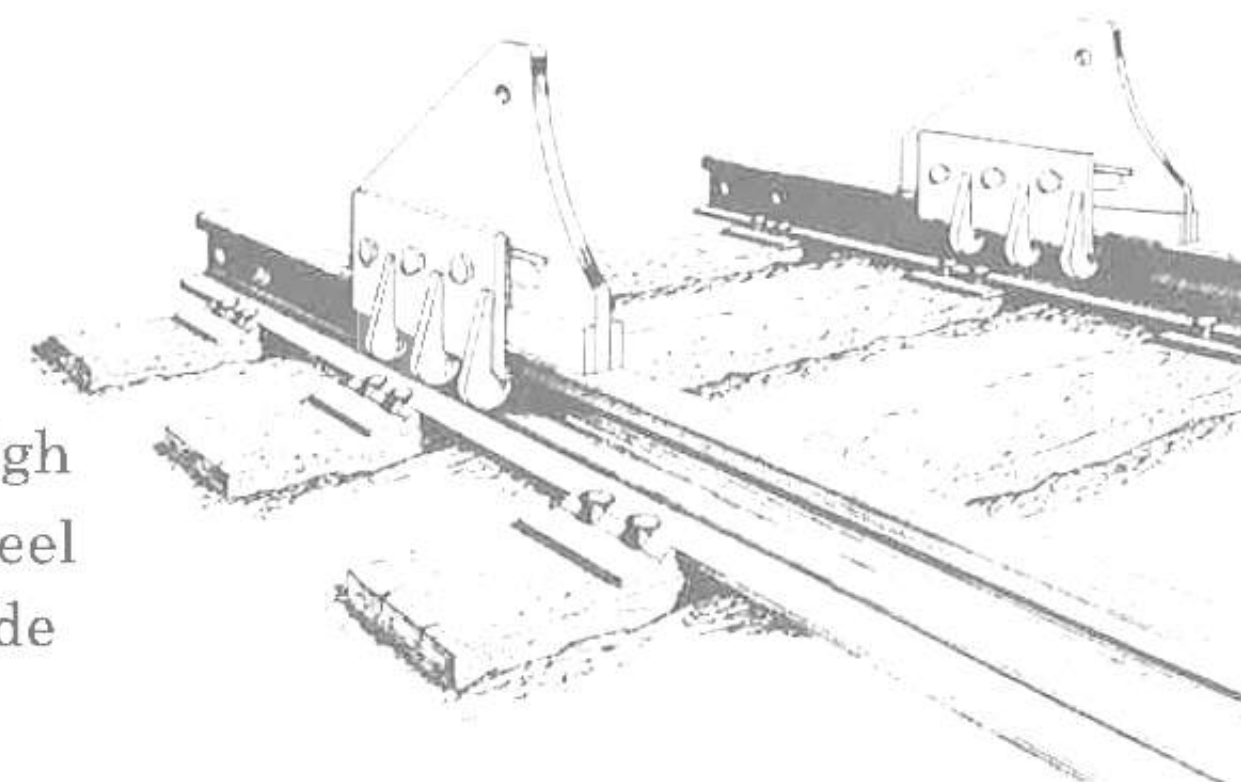
- **Fast, clamp-on design**
- **Few Components**
- **No drilling of rails**
- **Ballast & ties not disturbed**



Recommended especially for use on stub-end tracks where the base of the rail is not accessible (flush rail - rail surrounded by concrete, asphalt and other kinds of pavement).

Simple application; just bolt the two clamp wedges lightly. Using a sledge hammer, drive the car stop block until it grips the rail-head securely - when firmly gripped - draw the four bolts tight. No further attention is necessary.

When used in pairs, be sure they are parallel so both wheels contact simultaneously.



Specifications

Height Above Rail: 16-5/8"

Weight Per Pair: 350 lbs.

Size: One size fits
all rail from
4-5/8" to 8" high

Material: All-welded Steel

Finish: M/W Red Oxide

Wheel Contour: 33" - 36" dia.

Speed: Up to 3 mph

Wheel Stops are to be used for low speed stopping of rail cars. Speeds above 3 MPH are not recommended. Damage to wheels, bolsters and centerpins can occur at excessive speeds. Where speeds of 3 to 4-1/2 MPH are expected, we recommend cushion style SF or Spring Action Hayes Wheel Bumpers.

WESTERN-CULLEN-HAYES, INC.

1/98 2700 W. 36TH PLACE CHICAGO, IL. 60632
(773) 254-9600 FAX (773) 254-1110



WESTERN-CULLEN-HAYES, INC.

120 N. 3rd Street, P.O. Box 756, Richmond, Indiana 47374
(765) 962-0526 FAX (765) 966-5374



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781-229-0707

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SEALS



PROJECT IDENTIFICATION

FEDERAL PROJECT
ID NUMBER
FR-RLD-2000

EAST DEERFIELD YARD INTERMODAL AND RECEIVING YARD IMPROVEMENTS PROJECT

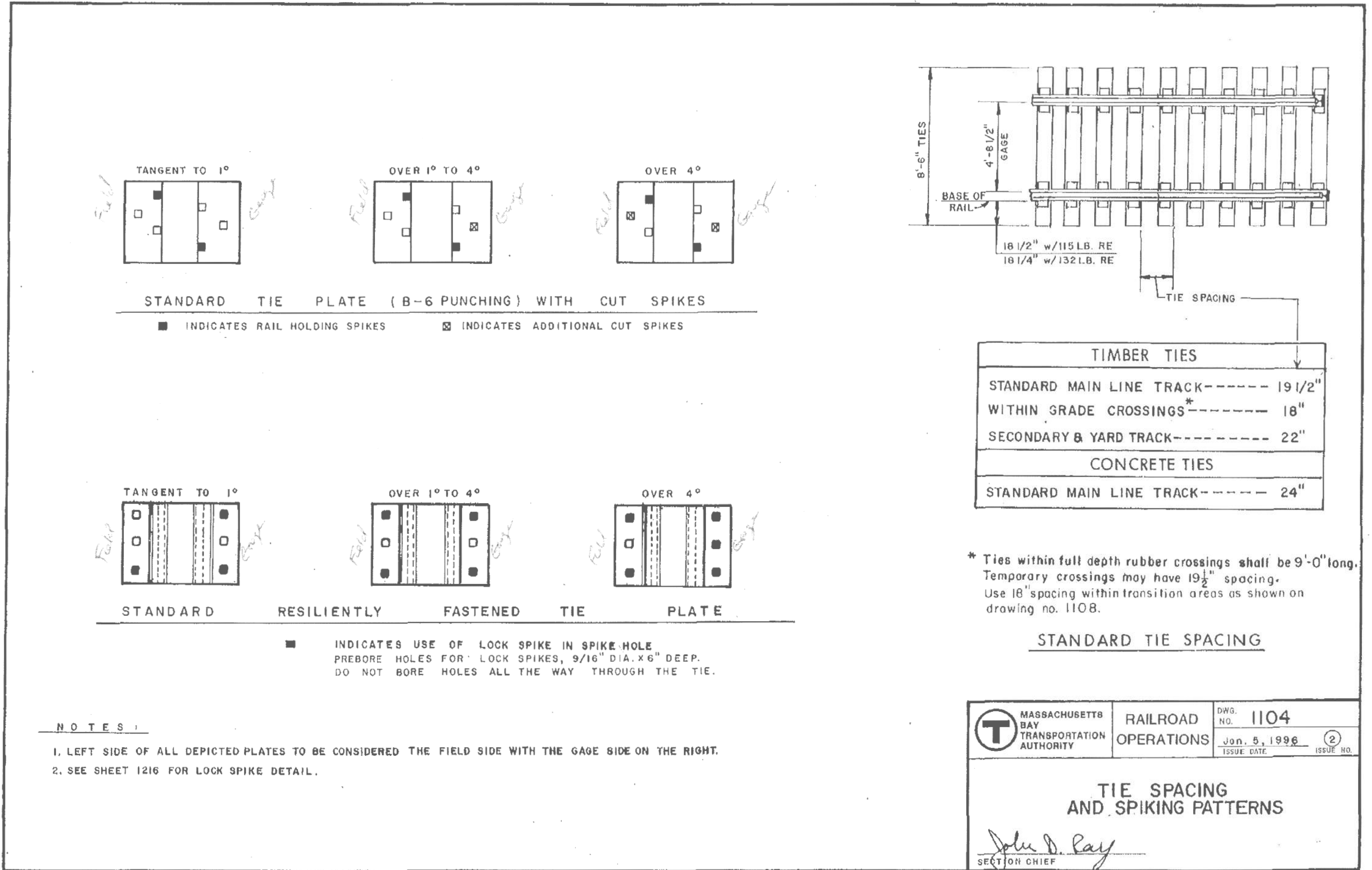
0	8/28/24	ISSUED FOR CONSTRUCTION	MAY
MARK	DATE	DESCRIPTION	BY

ISSUE BLOCK

PROJECT NO.:	4020274
DESIGNED BY:	MAV
DRAWN BY:	MAV
CHECKED BY:	JSS
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DATE:	8/28/2024

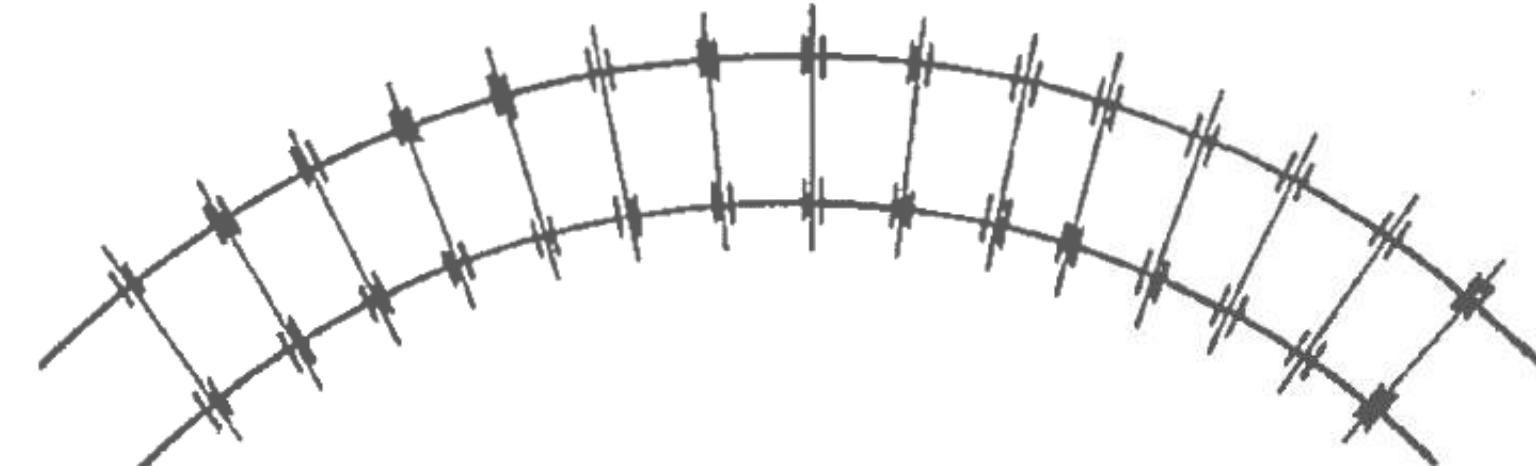
WESTERN-CULLEN HAYES
MODEL 430F
CAR STOP DETAIL

K-0208
39 OF 44

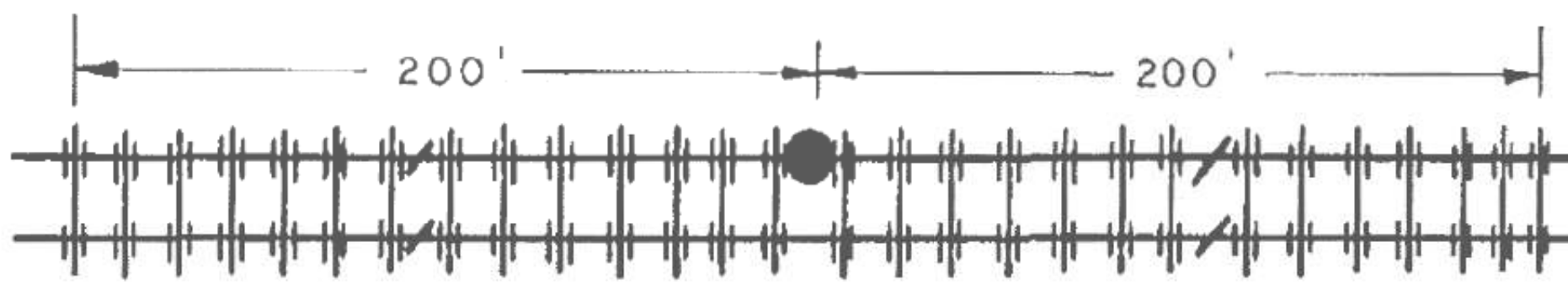


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0	8/28/24			

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CWR WITH CURVES 3° AND OVER



JOINTED END OF CWR STRING

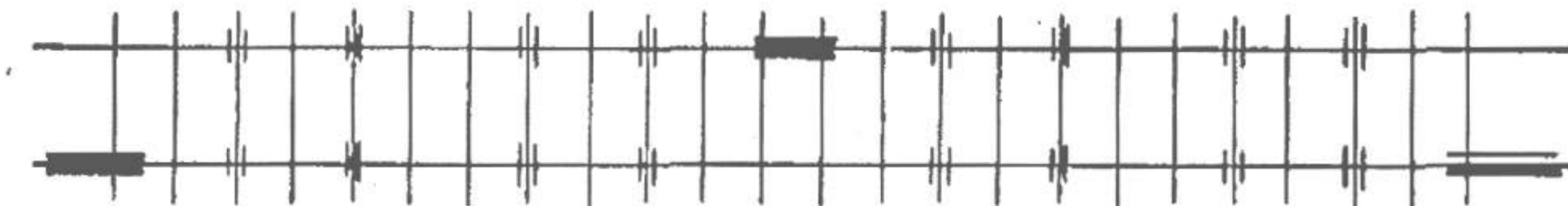
● INDICATES JOINT BARS

AT LOCATIONS WHERE CWR MEETS JOINTED RAIL,
DO NOT APPLY ADDITIONAL ANCHORS TO
JOINTED RAIL.



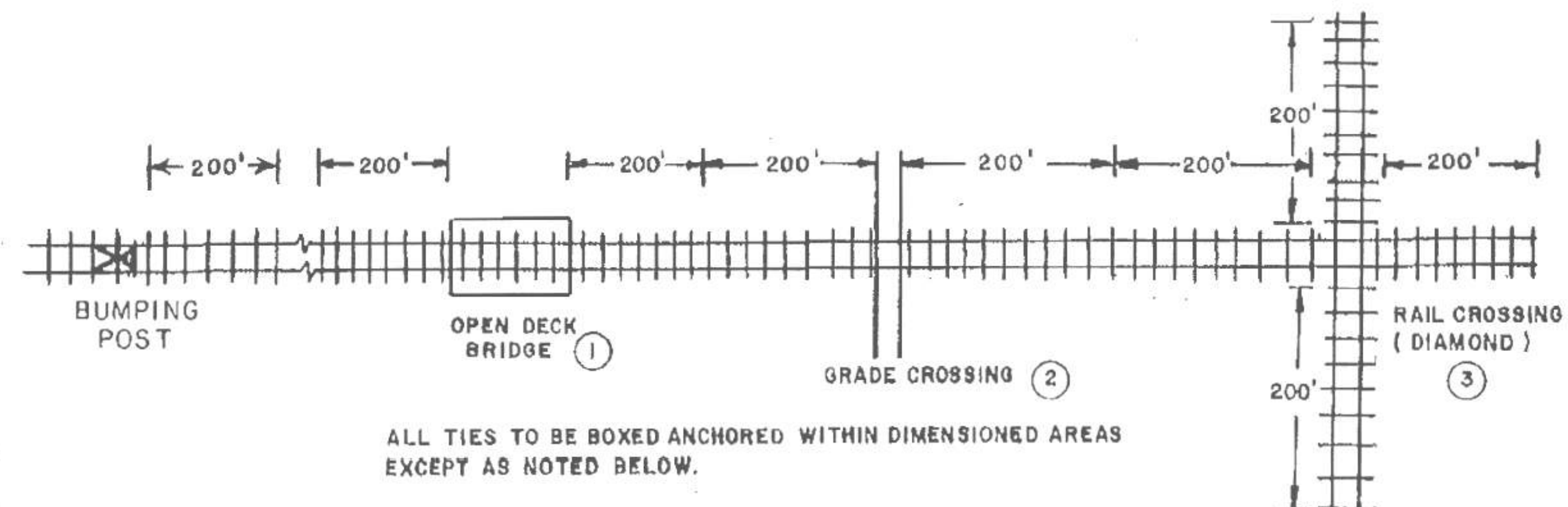
TYPICAL CONTINUOUS WELDED RAIL (CWR) STRING
(TANGENT & CURVATURE UP TO 3°)

RAIL ANCHORING PATTERNS FOR CONTINUOUS WELDED RAIL



RAIL ANCHORING PATTERN FOR JOINTED RAIL IN 39' LENGTHS WITH TRAFFIC
IN BOTH DIRECTIONS

(32 ANCHORS PER 39 FOOT LENGTH OF TRACK) ④ & ⑤




ALL TIES TO BE BOXED ANCHORED WITHIN DIMENSIONED AREAS
EXCEPT AS NOTED BELOW.

RAIL ANCHORING FOR OPEN DECK BRIDGES, GRADE AND RAIL CROSSINGS
AND BUMPING POSTS WITH C.W.R. OR JOINTED RAIL

Anchoring Patterns Shown are for Cut-Spike Fastened Track. Rail Fastened with Approved
Resilient Fasteners Does Not Need Anchors As Shown on This Drawing.

NOTES

1. OPEN DECK OR THROUGH DECK BRIDGES ARE NOT TO BE ANCHORED ACROSS THE SPAN EXCEPT UNDER THE PROVISIONS OF THE MBTA'S MW-1 OR WITH AUTHORIZATION OF THE CHIEF ENGINEER.
2. GRADE CROSSINGS ARE NOT TO BE ANCHORED WITHIN THE LIMITS OF THE PAVED OR RUBBER AREA.
3. THE DIAMOND FROGS ARE NOT TO BE ANCHORED.
4. JOINTED RAIL ANCHORING PATTERN TO BE ADJUSTED FOR JOINT SPACING WHERE NECESSARY
5. JOINTED RAIL ANCHORING TO BE ADJUSTED FOR DIFFERING RAIL LENGTHS



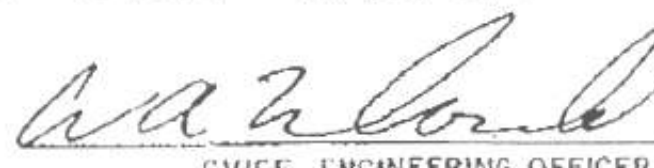
MASSACHUSETTS
BAY
TRANSPORTATION
AUTHORITY

RAILROAD
OPERATIONS

DWG.
NO. 1232
Oct. 28, 1992
ISSUE DATE
1
ISSUE NO.

RAIL ANCHORING DETAILS -
JOINTED AND CWR TRACK

John D. Ray
ENGINEERING OFFICER


CHIEF ENGINEERING OFFICER



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413-529-1700

SEALS




08/30/2024

PROJECT IDENTIFICATION

FEDERAL PROJECT
ID NUMBER
FR-RD-2000
EAST DEERFIELD YARD
INTERMODAL AND RECEIVING
YARD IMPROVEMENTS PROJECT

0	8/28/24	ISSUED FOR CONSTRUCTION	MAV
MARK	DATE	DESCRIPTION	BY

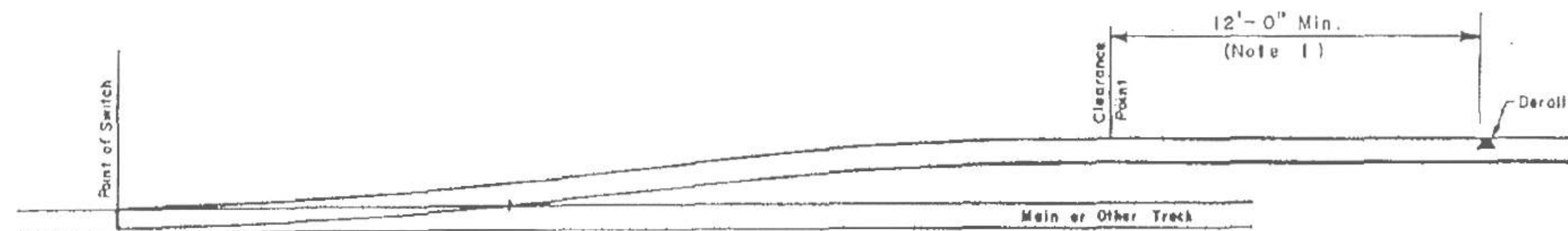
ISSUE BLOCK

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DATE: 8/28/2024

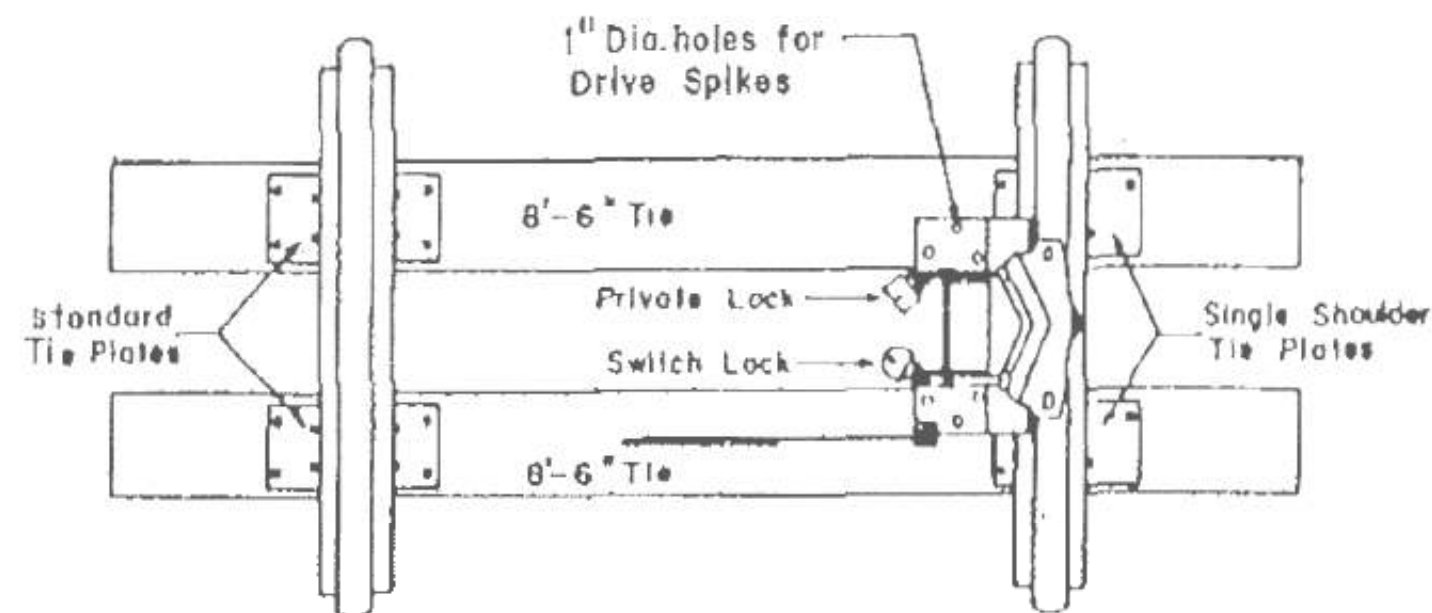
MBTA DRAWING 1232
RAIL ANCHORING DETAILS
JOINTED AND CWR TRACK

0	8/28/24	ISSUED FOR CONSTRUCTION	MAV		
MARK	DATE	DESCRIPTION	BY		

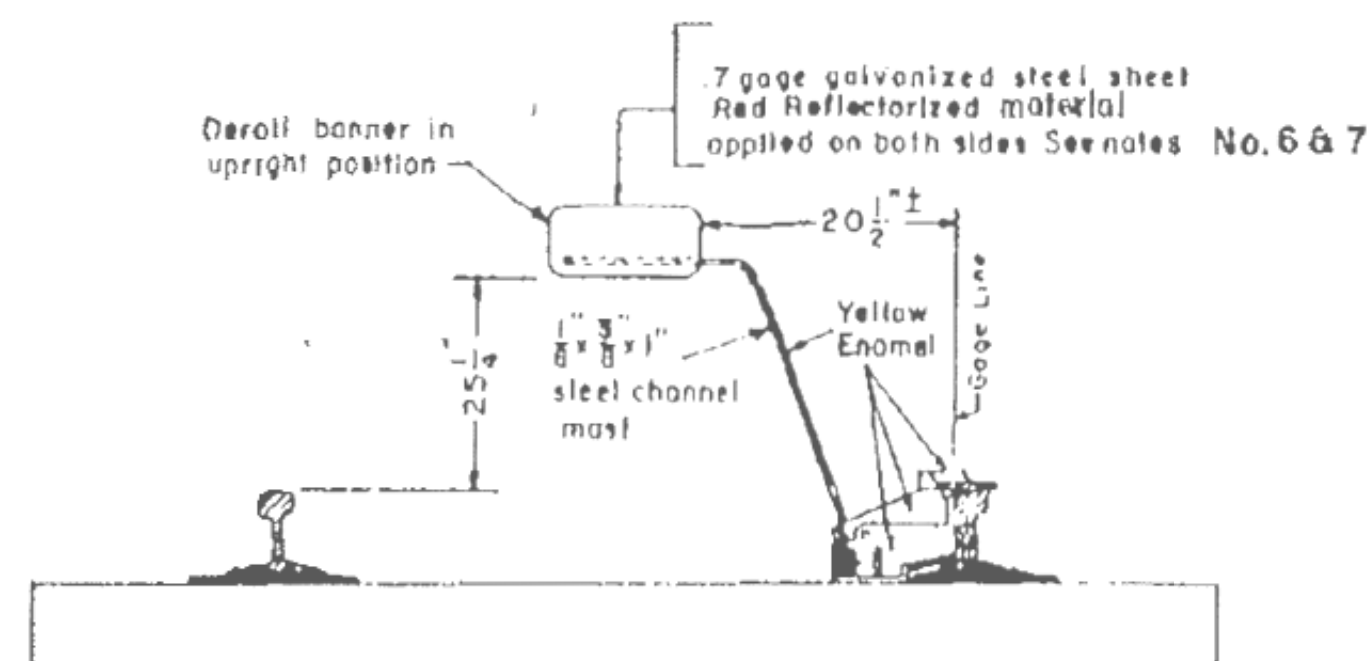
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DESIGNED BY:	MAV
DRAWN BY:	MAV
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DATE:	8/28/2024



LOCATION OF DERAIL

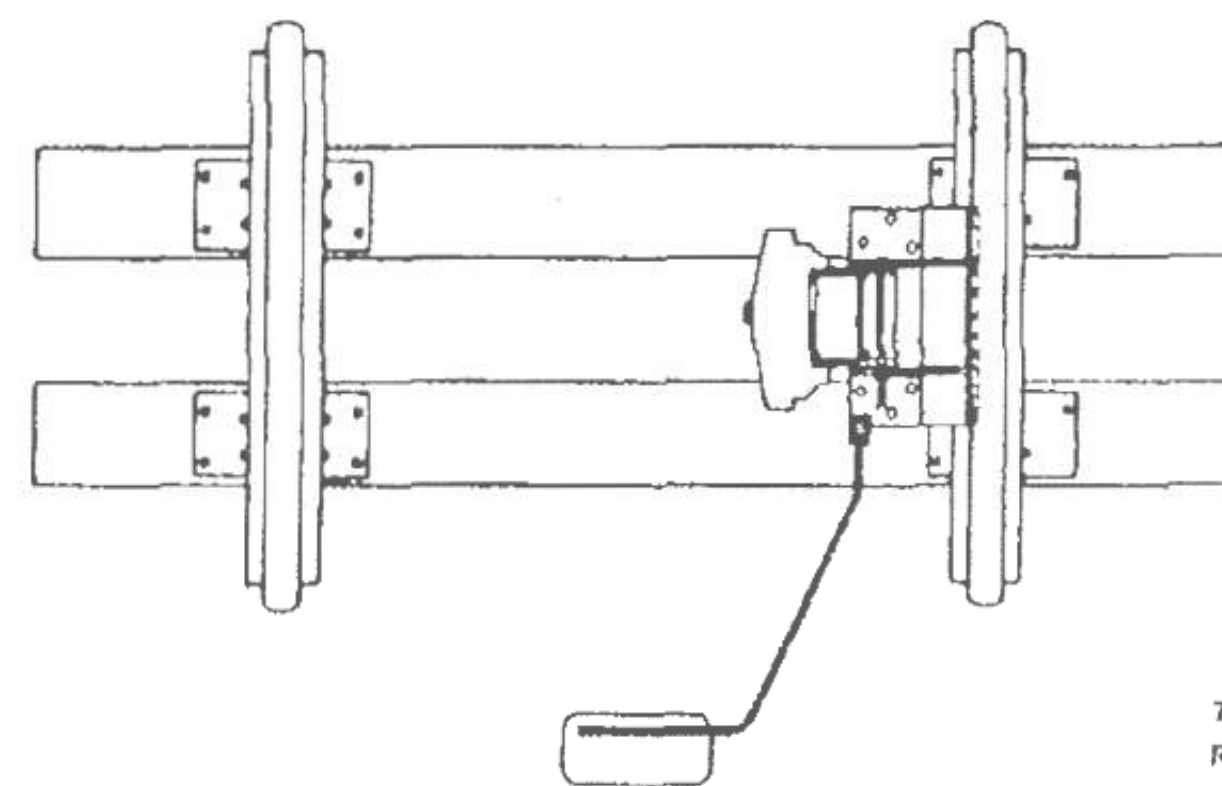


TOP VIEW

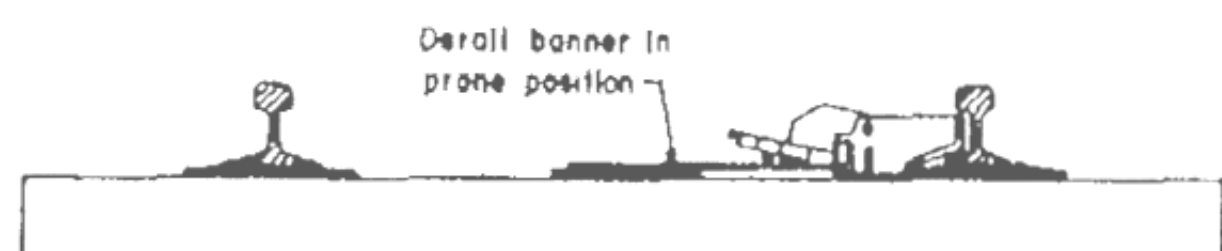


SIDE VIEW

DERAIL IN "NORMAL POSITION"



TOP VIEW



SIDE VIEW

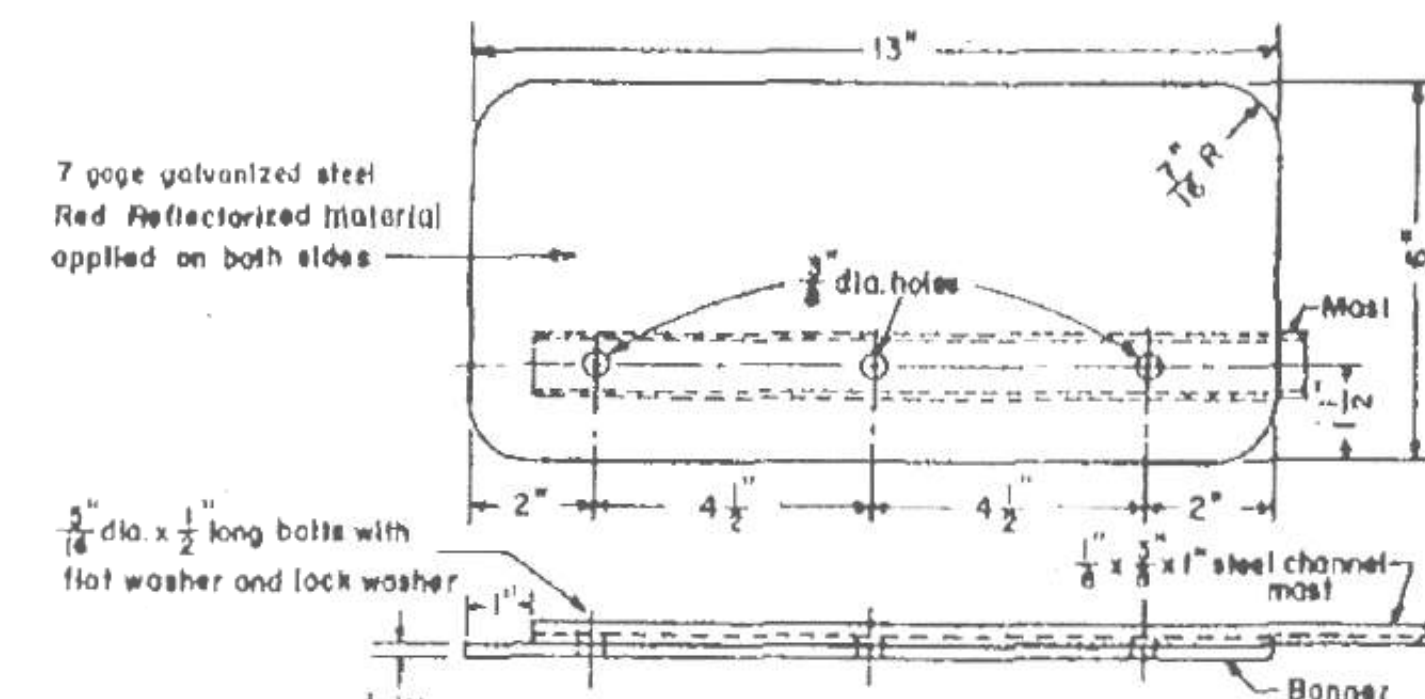
DERAIL IN "REVERSE POSITION"

NOTE:

- Derail shall be placed a sufficient distance back from the clearance point to assure that derailed rolling equipment will not foul main or other track(s).
- Hinged block type derails to be used only on enginehouse ready and storage tracks.
- When ordering derail specify size:

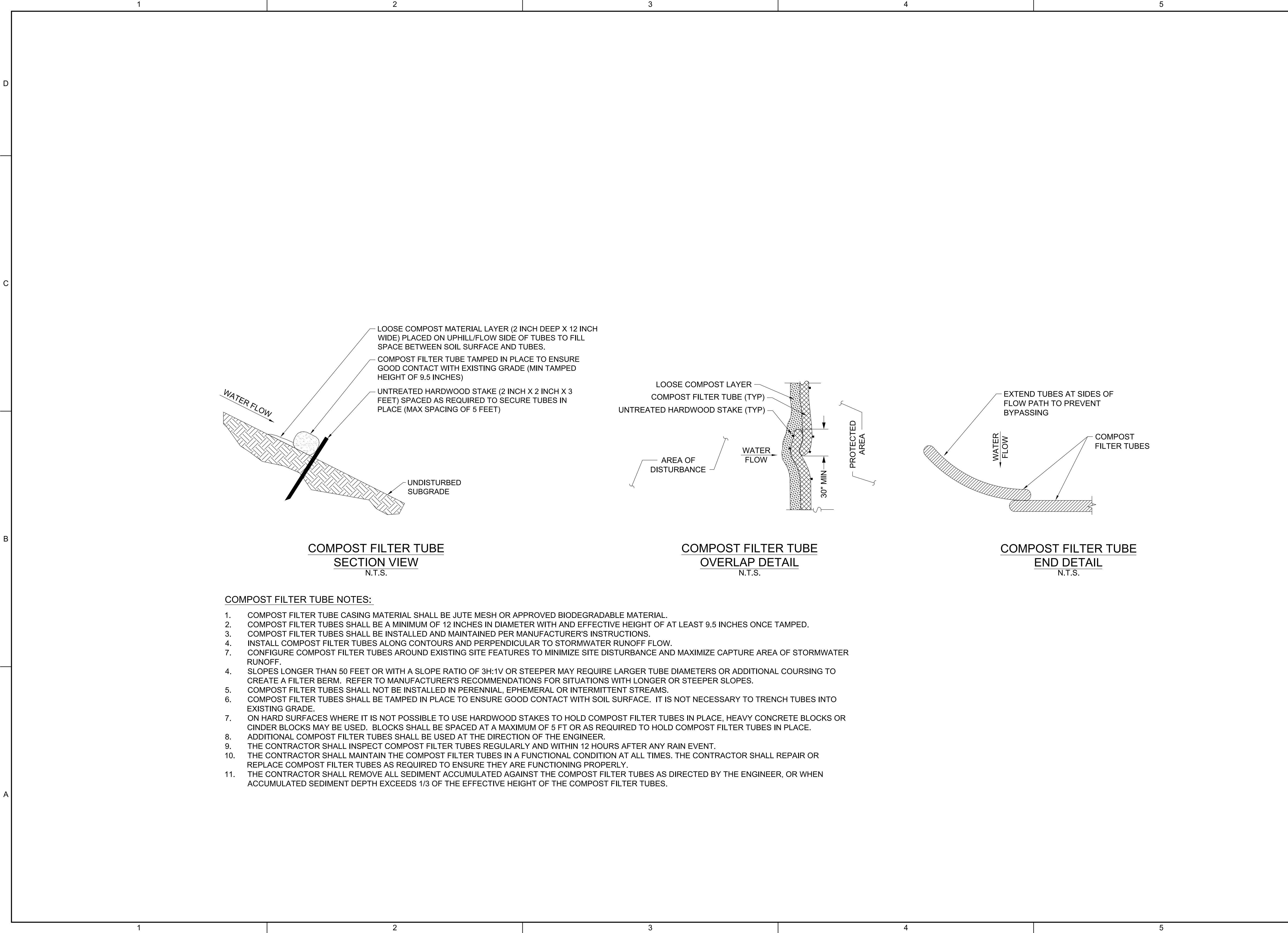
Size	Weight of Rail
5	70 to 100 lb.
6	90 to 110 lb.
7	110 to 140 lb.
8	140 to 155 lb.
- Derail is to be painted yellow enamel over primer.
- All derails to accommodate padlocks on both ends, one a switch lock; the other a private lock.
- Reflectorized derail banners shall be used where high visibility is necessary and where not prohibited by public authorities having jurisdiction.
- Reflectorized sheeting material shall conform to and be applied in accordance with current and applicable Mass. Highway Dept. Standards.
- Banners shall be fabricated from 7 gage galvanized steel sheet, as one contiguous piece (No Joints or Seams Allowed).
- Shade of coloration shall be approved by the MBTA or their designated agent.
- Should reflectorized material be prohibited, a red, fade resistant paint shall be applied over a rust inhibitive primer on the banner.


NOTE: The derail shown is manufactured by Western-Cullen-Hayes



DETAIL OF BANNER


MASSACHUSETTS RAILROAD TRANSPORTATION AUTHORITY	RAILROAD OPERATIONS	DWG. NO. 3000	1	
		Oct. 28, 1992		ISSUE NO.
		ISSUE DATE		
HINGED BLOCK DERAIL				
John D. Ray ENGINEERING OFFICER		[Signature] CHIEF ENGINEERING OFFICER		





Massachusetts Department of Transportation
Rail & Transit Division

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SEALS



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EAST DEERFIELD YARD
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YARD IMPROVEMENTS PROJECT

0	8/28/24	ISSUED FOR CONSTRUCTION	MAV
MARK	DATE	DESCRIPTION	BY

ISSUE BLOCK

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DESIGNED BY:	MAV
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COMPOST FILTER
TUBE DETAIL

K-0213
44 OF 44